CHAPTER I

INTRODUCTION

B 433 241 For four centuries the agricultural development of Brazil has been characterized by a series of speculative phases, each focused on a single product, each centered upon a single region of Brazil. BB 249 175 The first commercial product was sugar, the first region was the Recôncavo of Bahia. The agricultural society founded on the shore of the Baía de Todos os Santos in the mid-sixteenth century has persisted with an almost unbroken continuity for over four hundred years. BB 121 It is with the geography of this agricultural society that the present study is concerned.

B BB 433 After sugar had ceased to bring a quick profit, the Brazilian center of effort shifted to other areas where economies of cotton, oranges, rice, cacao, and many lesser products opened the land and drew the ambitious and the desperate from the older settlements. Intermeshed with these phases of agricultural development were booms in the exploitative industries--in the mining of gold and diamonds and in the gathering of rubber. So characteristic have been these speculative convulsions, each followed by a shift to a new region, that they might almost seem to be the whole of Brazilian history and Brazilian reality--the nation might have been practicing a system of shifting cultivation on an immense scale with not only fields but whole regions abandoned as the yield declined. Yet this is not the case, for in each of these regions men remain and crops persist. BB 178 249 161 The Recôncavo, long past its triumph, has a present day population of one million people, many of whom are still cultivating the original speculative crop, sugar cane. B BB 241 178 The Recôncavo is not unique in this respect, for coastal Pernambuco, eastern

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B BB 241 178 Rio de Janeiro, the Paraíba Valley, and the older coffee areas of eastern São Paulo still contain enduring settlements and cultivated fields. If the speculative development of the nation continues, more and more of the Brazilian landscape will be occupied by these "passive" regions. Such areas have considerable significance as individual sections of Brazilian land and society, and they also provide an opportunity to examine some of the stable and traditional institutions which are concealed in the frenzy of the agricultural booms. It is reasonable to suppose that in these regions the hard core of Brazilian agricultural life is preserved. Here are maintained the values and systems which will not be surrendered.

B 361 As a consequence of the localization of the speculative developments, most of the settlements of Brazil are demographically detached and culturally and economically distinctive regions. Frequently these regions compose the effectively settled cores of individual states. Usually they have a single pre-eminent city in which are centralized not only political and social activities but also the organization of commercial agriculture--capital, marketing, processing, and foreign trade. Such central cities include São Paulo, Curitiba (in Paraná), Recife (in Pernambuco), and Salvador (in Bahia). Such is the regional B 184 241 diversity that one may wonder if it is possible to speak of a Brazilian national culture or of a characteristic Brazilian agricultural pattern. Yet, "throughout Brazil, the people share in one basic culture pattern . . . The different regions present specialized versions of the national culture," the anthropologists have decided.[1] The existence of common agricultural patterns is implicit in the generalizations made about "Brazilian agriculture" by the agricultural specialists, geographers, sociologists, and economists.

249 178 of the Paulista,[4] the aggressive business man and agricultural capitalist of São Paulo state. (2) The departure of the more adventurous elements from the sugar economy and the transference of the center of economic development from the Recôncavo have allowed the region to maintain its traditional practices and values and to preserve the colonial background of Brazilian agriculture. Although no single area can typify the entire constellation of the Brazilian agricultural regions, the Recôncavo does seem to epitomize the characteristics which underlie their diversity. It is in a sense a microcosm in which many of the agricultural problems which beset Brazil are isolated in their acute phases.

241 171 The Recôncavo does not, of course, reflect every aspect of agricultural life which may be found in Brazil. Not all the various crops are cultivated in the Recôncavo, although most of the important Brazilian crops are grown to some extent. There is no mixed agriculture such as is found in Rio Grande do Sul, nor are there vast pastoral enterprises like those of Mato Grosso or the remote Northeastern interior. There are few peasant proprietors such as are found in São Paulo. Its pattern of regional organization is not a duplicate of that of any other Brazilian region. In all, however, most of the characteristics of Brazilian agriculture and especially the systems of cultivation and the pattern of agricultural institutions are present 241 121 in the Recôncavo microcosm. This region has several special advantages as the subject of a regional investigation of agricultural phenomena. It is small enough so that it can be studied thoroughly and in a limited period of time. It is large enough to have a diverse internal organization and conflicts of interest which can be analyzed. It is relatively detached so that the gross regional pattern is undisturbed by overlapping and is easy to observe.

121 131 [311] separate them from the manifestly non-Recôncavo areas of the surrounding zone. This limit of twenty per cent of the total area in agricultural land use corresponded rather closely to the outer boundary of a compact group of twenty-one municípios, and as a tentative regional concept, these twenty-one municípios were considered to be the Recôncavo.[5] The area of the region thus defined is 4,827 square miles (12,500 square kilometers), about equal to the size of the state of Connecticut.

121 241 Purpose and Procedure. The primary purpose of the research upon which this monograph has been based was to analyze, from a geographical point of view, the structure and the functional organization of agriculture within the Recôncavo. It is not within the present scope to make a detailed comparison of the agricultural patterns of the Recôncavo with those of the rest of the nation. However, because of the general unity of the Brazilian agricultural system and the special relationship between the Recôncavo and the origins of the system, a study of the agriculture of the Recôncavo microcosm is a study of many of the basal aspects of Brazilian agriculture.

241 127 Very little literature is presently available on the agricultural patterns of the Recôncavo. Certain general characteristics of the agriculture of the region may be deduced from the brief interpretations of maps of the 1948 production of sugar cane, tobacco, and manioc in the state of Bahia published by the Conselho Nacional de Geografía.[6] Indirect information may be gleaned from the general economic and agricultural histories of Brazil and from the sociological studies of the Brazilian northeast.[7] But comprehensive analysis based upon field or statistical study of the geographical patterns of agriculture of either the state of Bahia or of its nuclear region, the Recôncavo, are lacking.

1:Haskins K-4,5 (1952-[illegible]954)1956 SO11 Bahia Brazilians SO11

134 the Crystalline Uplands. Although in slope, these soils stand up remarkably well under abusive cultivation methods. The general distribution of these upland and slope-land soils is related to the pattern of landforms in the Recôncavo. In the Intermediate Hills the red-brown argillaceous soils predominate. In the Crystalline Uplands the arenaceous soils occupy the largest area, but the slope-land clays and clay-loams are also extensive.

On the less well-drained valley floors and in the shallow depressions on the uplands, a soil has developed which locally is called massapê or crystalline massape[15] because of its resemblance to the massapê of the Cretaceous zone. In the depressions a black or grey marl is common. It is very similar, at least in physical character, to the Cretaceous massapê In the valleys the soils are less argillaceous but have a greater humus content. Although heavy and sometimes acid, especially in the depressions, these soils are very useful when drained. However, draining the soil is usually an insuperable problem for the small cultivator. Nevertheless, [24] he finds some use for the soil, for he laboriously transports it to the upland to use as a fertiliser.

Soils derived from non-crystalline rocks are also found in the crystalline zone. In the Western Recôncavo the Tertiary deposits were laid down directly on the crystalline rocks. In some areas there are minor remnants of these rocks. Over more extensive areas, Tertiary-derive soils are the characteristic surface material, locally called aréia branca (white sand). These soils are almost pure sand, very light colored and very porous and infertile. Such soils are frequently encountered south of the Rio Paraguaçu. Similar soils are found along the crystalline-sedimentary boundary north of the river. These may not be residual--it is possible that they were transported westward from the main Tertiary zone by wind or stream action. Though aréia branca is a characteristic feature of much of the Western Recôncavo, this soil is not typical of the area farther west.

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134 The soils of the peninsula northeast of the city of Salvador are [245] chiefly crystalline-derived. Near the sea and extending inland five or ten kilometers is a belt of white sand dunes, which are not cultivated but are planted in coconut palms. Bondar reports some fertile diorite-derived soils in the peninsula above Salvador, but does not precisely locate the area.[16] Observations in Salvador and its environs suggest that at least two soils of the Western Recôncavo, the crystalline massapê and the slope-land clays and clay-loams, are characteristic also of the peninsular area.

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133 Alluvial Soils. The areas of alluvium in the Recôncavo are so limited that it might almost be said that there are no alluvial soils. There are no conspicuous deltas. Along the margin of the Bay and the estuaries which feed into it there is usually a precipitous decline from the plains or hills to the narrow beach. Narrow lowlands with alluvial soil were observed in three areas: (1) on the west coast of the island of Itaparica and on the mainland opposite; (2) on the north side of the Bay between the Rio Sergi and the island of Madre de Deus;[17] and (3) along the estuary of the Rio Paraguaçu between the cidade of Maragogipe and the head of the Bacia do Iguape. These marginal alluvial lowlands cover only a very limited area of the total Recôncavo. Most of the alluvial lands are mangrove swamps or very low-lying semi-swampy [241] plains. No cultivation was observed in any of these alluvial areas.

Most of the valleys of the Recôncavo are so narrow that except in the major valleys of the Tabular Uplands, river bottom alluvium is rare.

Soils - Conclusion. The soils pattern which has been developed above is closely related to the patterns of parent material and topography. These correlations are in part a reflection of strong functional relationships between material, terrain, and soil in the Recôncavo. These

134 133 correlations are in part only apparent: they result from using geologic and topographic categories to map and classify soils.

13 Both climate and vegetation are also important factors in soil formation. Since the Recôncavo is a zone of sharp transitions in climate and vegetation, it is to be expected that these variations would be reflected in the soil pattern. In the Recôncavo, however, patterns of climate and vegetation generally re-enforce the patterns of material and terrain as they affect soils. The Cretaceous coastal lowlands are the most humid part of the Recôncavo. The inland Tabular and Crystalline Uplands, which is to say the Tertiary and crystalline soil zones, are markedly drier, as will be seen below. Thus the boundary between the Cretaceous and non-Cretaceous soils approximates a climatic transition, a transition which is also the forest and scrub-forest boundary.

134 241 The soils of the Recôncavo have been used for agricultural purposes for a long time--for about 400 years in the Cretaceous zone. They have been used with varying intensity: in the Cretaceous zone under an intensive monoculture, in the other soils zones under less intensive systems of field and fallow or as wild pasture. The affects of this prolonged use, with little soil conservation, can be only inferred. In the Cretaceous zone there is much complaint of low sugar cane yields, and a few cultivators are turning to commercial fertilizer. It is not clear whether these complaints and remedies result from a marked deterioration of the soil or from the declining competitive position of the sugar industry of the Recôncavo. In the crystalline zone it seems likely that only in the last few decades has cultivation become sufficiently intensive to cause--through shortening the fallow period--the deterioration of the soils. This affect is now beginning to be noticeable in the relatively intensively cultivated lands near the Rio Paraguaçu.

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The different cultivation practices of the agricultural systems associated with the soils zones seem likely to intensify the present soils pattern. If commercial fertilizer is used on an increasing scale in the Cretaceous zone and if intensification of cultivation continues in the crystalline—as seems possible--the differences between these soils will be accentuated. It is apparent in any case that significant regional differences in soils will be a continuing feature of the Recôncavo for some time to come.[18]

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Climate

Introduction. The northeast of Brazil is an area of tropical climates, without frost except in a few interior highlands, and without pronounced seasonality of temperature. The margins of the sea are generally humid; the interior is dry. Usually the humid maritime belt is narrow, and the transition to the drier Northeastern interior is very rapid.[19] The profound climatic differences between the coast (the práia or beach) and the interior (the sertão) are reflected in the contrasting economies—coastal cultivation and interior livestock industry--and in the deep social gulf which separates the people of the coast and the interior. "The two Northeasts," Freyre calls these contrasting physical and cultural zones.[20]

Along the central coast of Bahia the transition from humid littoral to dry interior has an irregular character, due to the presence of the Serra do Mar (here called the Serra da Papuã) to the ocean south of the Recôncavo. The mountain-backed southern coast is more humid than the lower northern shore. The coastal humid zone is carried inland around the littoral of the Bay.

The temperature pattern of the Recôncavo is relatively simple.[21] The mean annual temperature at Salvador is 25° C. and at Cruz das Almas (the most interior weather station in the Recôncavo), 24° C. Neither

132 The Major Wet Season—March through August. From 60 to 70 per cent of the total annual precipitation of the Recôncavo falls in the six-month period from March through August, which is the growing season for most annual crops. Although of different values, the isohyets of the map of the major wet season follow closely those of the annual rainfall map. The margins of the Bay have about 1300 mm., and the dry northwest less than 500 mm. of precipitation during these six months. The scanty data which are available suggest that the decline in precipitation across the narrow transition zone from the head of the Bay westward is greater for the wet season (54 per cent) than for the whole year (48 per cent). This fact, even more than the rapid decline in annual precipitation, may help to explain the sharp transition in agricultural phenomena which characterizes this zone. The [241] eastern edge of this transition zone is, as will be seen, in sugar cane monoculture, and the western edge is in tobacco and manioc under a field-fallow system.

Along the coast about 70 per cent of the annual precipitation falls in this six-month period, but in the interior only 60 per cent. Since this is the only season of regular and relatively dependable precipitation, the drier interior area receives less of its annual precipitation under conditions of high reliability than does the coast.

The precipitation of this season comes from either intermittent heavy showers or slow steady, day-long rains. A day may open with cloudless sky and hot sun. In late morning clouds gather, and there is a quick, sharp shower, followed by sunshine, and then a second shower. This sequence continues until evening. More characteristic, if the period of field investigation for this study was representative, is a slow continuous rain from a low-hanging blanket of clouds, lasting a

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132 For the period 1949-1952, inclusive, Cruz das Almas had the following number of rainy days:

March	12 days	June	18 days
April	16 "	July	17 "
May	24 "	August	19 "

Of the 24 months of the wet seasons of these years, three had less than ten rainy days, and four others had from ten to fifteen. Moreover, in the periods March-April and July-August there were a number of cases in which one-third or more of the monthly precipitation fell in one 24-hour period. It is clear that the desirable 100 mm. of well-distributed monthly precipitation is frequently lacking.

In contrast with the major wet season, the trovoadas of October, November, and December show much greater variation—a mean deviation of 43 per cent at Salvador and 31 per cent at Cruz das Almas. These two mean seasonal figures, though mathematically correct, rarely correspond even approximately to the actual seasonal totals of any particular year.[26] Moreover, the totals of particular seasons mask very capricious monthly and daily rainfall patterns. Usually an important part of these minor wet season rains comes as heavy thunderstorms. In 1952, for example, Cruz das Almas had 429.5 mm. of rainfall in the October-December season, of which 344.7 mm. fell in December—120.1 mm. in one day, indeed in one continuous downpour. If the 1949-1952 period was representative, these heavy (over 100 mm.) 24-hour storms are a typical December occurrence. Such rains are a greater threat to agriculture than they are a resource.

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241 Advance and Retreat of the Wet Season. In agriculture the cultivation calendar is likely to be fixed: the seasons of planting and harvest are often kept without regard to the variation in climate. This is especially so in the Recôncavo, where custom is so compelling an aspect of life. Under these circumstances the timely arrival and

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132 [241] departure of the wet season is of great significance. On the accompanying maps the advance, retreat, and duration of the wet season has been plotted in terms of 100 mm. of monthly rainfall.[27]

The wet season, defined as 100 mm. of rainfall monthly, comes in from the sea and crosses the Bay in January-February and moves across the Recôncavo through March and April. In May the retreat begins, and by September the wet season is over.

By combining the isopleths indicating advance and retreat it is possible to derive a map showing the duration of the wet season. On this basis the northwestern sector of the Recôncavo has no wet season or has only one month--May. The southern Crystalline Uplands have a wet season of three, four, or five months--April-June, April-July, or March-July, the shorter season occurring in the most interior section. The Tabular Uplands have two, three, or four months--April-May, April-June or March-June--of wet season. Most of the coastal lowlands have a seven-month--February-August--wet season.

The wet season outlined on the accompanying maps is the statistical mean of the wet seasons of six years--1947 to 1952. The accompanying table (Table II) shows the advance and retreat of the individual wet seasons at Salvador and Cruz das Almas. These data suggest that the advance and retreat of the wet season is highly irregular in the area around the Bay.[28] In the interior, if Cruz das Almas is representative, the advance and retreat of the wet season is more regular. However, in every year from 1947 to 1952 there was a dry month--with less than 100 mm. of rainfall--in the midst of the wet season of the interior.

[249] September Precipitation. September precipitation is a critical factor in the harvesting and processing of the two chief commercial

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132 [249] will turn the cane fields into quagmires from which it is impossible to move the laden ox-carts.[29]

The table above (Table III) indicates that the September rainfall is highly variable both on the coast and in the interior, although Cruz das Almas has a slightly more consistent pattern for this month. The variability of September precipitation, as will be seen, raises serious agricultural problems in the Recôncavo. However, the greater [249] variability of the coastal zone is in some ways a less serious problem than the lesser variability of the interior, for cane harvests can be temporarily postponed, but the cutting and drying of tobacco has an extremely critical time factor.[30]

Climate - Summary. The climate of the Recôncavo is dichotomous. The temperature of the region is fairly constant from day to day and from season to season. In contrast, precipitation is unevenly distributed—in area and in season—and is relatively unreliable. The cultivator of the Recôncavo may take the temperature for granted, but rainfall is an almost incessant concern.

Along the margins of the ocean and the Bay the climate is humid and the precipitation relatively reliable--it is a rare season when the crops of this zone suffer from drought. Because of the heavy invest- [249] [257] ment in industrial equipment and labor, a long delay in harvest is costly to the sugar industry.

In general the uplands have marginal precipitation. Beyond the [241] Recôncavo, in the *sertão* (backland) crop cultivation is scattered and precarious, chiefly on account of the low and uncertain rainfall. Although the uplands of the Recôncavo have more total precipitation than [241] the *sertão*, they share in the pattern of uncertain rains. Several areas in these uplands are intensively cultivated, and the recurring severe

132 241 droughts and unseasonable heavy rains fall upon valuable, and vulnerable, field crops. Moreover, the cultivators of the Uplands are characteristically small farmers without large financial resources, so that the social repercussions of bad weather in this area may be marked.

311 137 [241] Wild Vegetation. Wild vegetation is a significant element in the landscape and an important resource for agricultural production in the Recôncavo. In 13 of the 21 municipios of the region, over 10 per cent of the total area, in 1940, was in mata, or forest, which was used as an agricultural resource.[31] In the southwestern third of the Recôncavo as the accompanying map indicates (Map 14), almost one-fifth of the total area was in this "exploited mata." It is inferred, through the addition of "unused and non-productive" land to the "exploited mata," that well over one-half of the total area of the Recôncavo was in wild vegetation.

137 192 In east-central Bahia three terms are used both colloqiually and professionally to designate the wild vegetation: (1) Mata is used generally to refer to the littoral evergreen forest of the Brazilian east coast. (2) Caatinga refers to the semi-deciduous scrub-forest of the northeastern Brazilian interior. (3) Agreste designates the transitional forest, intermediate in structure and position between the mata and the caatinga.[32]

137 Vegetation Types. The narrow coastal plain of eastern Brazil, from the Rio Paraíba—in eastern Rio de Janeiro state—to central Bahia, bears a heavy evergreen forest or selva.[33] The northern end of this forest belt is the Baía de Todos os Santos. Although the trees are lower and the species somewhat less diverse than in northern Brazil, the littoral forests of the Recôncavo and the Bahian coast farther south are a characteristic variation of the "tropical rain forest."

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CHAPTER III

EVOLUTION OF THE RECÔNCAVO

175 **Introduction.** The first permanent colony on the Baía de Todos
os Santos was established by the Portuguese in 1549.[1] This colony, at
the city of Salvador, was the nucleus of settlement in the Recôncavo.
The Recôncavo was thus one of the early European colonies in the New
World.[2] The first Portuguese colonists came to seek their fortunes in
175 178 the exploitation of the land. The ethos of the Recôncavo economy in
181 the four centuries since its founding has remained fairly constant: the
433 241 realization of the greatest agricultural profits with the least capital
investment, the minimum conservation of land and labor, and the most
grudging adjustments to changes in technology, markets, and the social
433 241 and political order. Most of the million descendants of Portuguese
178 colonists and Negro slaves who live in the Recôncavo today are imbued
[181] with the orthodox values of the exploitative agricultural society
established here in the sixteenth and seventeenth centuries. Shifts in
markets and in the relative importance of commercial products have
not been accompanied by equivalent changes in the speculative and
exploitative orientation of the society. In the initial period a market
for Recôncavo agricultural products was assured because it had a
virtual monopoly. The development of alternative and competitive
sources for these products broke this monopoly and caused a continuous
increase in the speculative character of agriculture in the Recôncavo.
This area did not respond to the increased risk by diversifying its
agricultural base but persisted in the same crops and the same methods
of cultivation. Such change as did take place was in the form of
reluctant, tardy, and minimal adjustments so that in many ways the

433 241 Recôncavo remains today a backward and traditional agricultural
178 society.

However, not all elements in Recôncavo life are static. In
the field one was incessantly conscious both of the gradual course of
change in this region and of the latent instability of its economic
organization. Particularly in the last 75 years the agricultural
economy of the Recôncavo has begun to shift--it is apparently in the
throes of a drastic economic reorganization. It remains to be seen
whether the traditional values will survive this economic revolution.
[128] The brief historical discussion to follow is not intended as a
substitute for a full-scale historical reconstruction. Its purpose
is to indicate the major patterns in the evolution of the Recôncavo.

175 *The Evolution of Colonial Agricultural Institutions.* By the
end of the initial half century of settlement (1600) those ethnic
groups, crops, animals, and agricultural institutions which were to
[567] become characteristic of the Recôncavo were already in evidence. Negro
[249] slaves were brought in on the heels of the first Portuguese settlers,[3]
[231] and sugar cane and cattle were also introduced at this time.[4] Tobacco
[244] [249] and manioc, produced by the Indians indigenous to the northeast of
[177] Brazil, were rapidly integrated into the colonial agriculture of the
[249] Recôncavo.[5] The combined sugar mill and plantation (*engenho*), which
[471] was the basic economic institution of the Recôncavo until the end of
the nineteenth century, already existed in rudimentary form before
1600.[6]

175 249 From the beginning the new colony in the Recôncavo had three
[244] important crops--sugar cane, tobacco, and manioc. It was the cultivation of sugar which the Portuguese crown and the initial settlers had

162 compose most of the population of the Recôncavo today. In 1940 the
563 population of the *Centro-Litoral* of Bahia--the census area most closely
corresponding to the Recôncavo--had the following composition: white,
22 per cent; black, 29 per cent; and others, predominately mulatto,
49 per cent.[12]

175 The purchase of large quantities of slaves required the production
439 of a commodity which could be used as exchange in Africa. The
567 436 indigenous tobacco proved eminently suitable for this purpose. Although
276 rum apparently was used also in this trade, tobacco became the essential
[273] source of exchange for the slave traffic.[13] Bahia was the main area of
[249] tobacco production, and probably most of this production was localized
in the Recôncavo.[14]

175 The initial period of settlement saw also the incorporation of
244 433 manioc[15] into the agricultural economy as a staple. Like tobacco, it
[567] was an indigenous crop. Thus one indigenous crop was adopted to
purchase slaves in Africa and another to feed them in Brazil. By
1587 manioc apparently was being cultivated on a moderate scale in
Bahia.[16] A recurring theme in the history of the Recôncavo is the
shortage of this essential foodstuff.

241 In addition to the principal crops--sugar, tobacco, and
262 manioc--a number of lesser agricultural products were important in the
175 433 early history of the Recôncavo. Corn, beans, and bananas were grown
on a small scale and used to supplement the manioc diet. Other diversifications
231 of the diet were provided by meat and fish. Cattle were
maintained to draw the ox carts and to power many of the cane mills.
For lighter tasks asses and mules were used.

178 Out of this complex of Portuguese settlers and Negro slaves, of
249 433 old world and new world crops, there developed certain characteristic
agricultural enterprises. The *engenho*--old world in the origin of its

178 249 433 crop, technology, and market--was the most important of these enterprises. The sugar industry flourished in its new world setting and developed from the beginning an institutional character different from that of the old world, particularly in terms of land holding, labor, and the organization of production.

> 175 423 249 471 The regime of possession of the land was that of completely alodial properties. Among the powers of the donatários of the capitania was, as we have seen, that of disposing of the land, which they distributed among the colonists. The grants were as a rule very large, the lots measuring many leagues. This is understandable: the lands were abundant, and the ambitions of these pioneers, recruited at such a cost, were evidently not contented with small properties; it was not the position of modest peasants to which they aspired in the new world but as great senhores [gentlemen] and latifundiários [landowners]. In addition to this and more important, there was a material factor which determined the type of property established. The culture of cane is practical, economically, only on a large scale. Merely conveniently to clear and prepare the lands (a costly task in this tropical and virgin setting so hostile to man) made necessary the united energy of many workers: it was not an enterprise for small and isolated proprietors. This done, the planting, the harvesting, and the transportation of the cane to the engenhos where it was made into sugar was only profitable when done in large volume. In these conditions the small producer could not exist.
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> It was above all these circumstances which determined the type of agricultural enterprise adopted in Brazil: the large property.[17]

175 241 471 433 The latifundia established by these colonists ideally were self-sustaining units producing food and sometimes clothing for the entire engenho community--free and slave. In fact, however, they often seem to have neglected food production for the cultivation of the universal commercial product--sugar cane. From the beginning of colonization a succession of regulations and decrees were issued to compel the cultivation of manioc. Recurrent food shortages suggest that these measures were not effective in the face of the "monocultural 000 mentality" of the senhores de engenho (sugar plantation owners). In

241 433 178 In contemporary Bahia chronic shortages of staple foods, particularly manioc, are characteristic of the zones of commercial agriculture.

175 The equipment and technology of the *engenhos* was primitive.
249 The cane was transported on the backs of mules or on ox carts to the
[492] mill where it was crushed in a crude press sometimes turned by water
power but usually by animal- or even man-power. The cane juice was
evaporated in large iron caldrons which were heated by fire made from
wood. This type of processing was in general use in the Recôncavo for
several centuries and still persists in some areas of the extra-Recôncavo
[464] backlands. The *engenhos* were operated almost exclusively with slave
[567] labor. Most of the slaves of Bahia are thought to have come from the
[177] Guinea Coast of Africa. These "*Mina*" Negroes[18] had a relatively
sophisticated cultural inheritance from Africa and undoubtedly made
substantial contributions to the cultural development of Bahia.[19]

175 249 464 567 The Negroes were introduced when Indian slaves failed to provide the necessary labor supply, but they were rarely available in sufficient numbers and at a low enough cost to prevent chronic labor shortages. *Falta de braços* (literally, lack of arms) has been a perennial concern in the Recôncavo no less than elsewhere in Brazil.
[162] The importation of hundreds of thousands of Negroes into Brazil--of which certainly a considerable number were settled in the Recôncavo--did not solve the problem.[20] In the early period most *engenhos* had from about 80 to 100 slaves, but by the eighteenth century some had as many as 1,000.[21]

175 563 567 From the beginning of settlement there was extensive miscegenation. The Portuguese settlers were predominately male, and they bred on a large scale with both Indian and Negro slave women. Some of the mestizo and mulatto children--chiefly the latter in the Recôncavo--retained the slave status of their mothers. Others were freed and sometimes occupied favored positions in their fathers' households.

175 565 The landed, slave-owning aristocrat was the master of Recôncavo society. The extended aristocratic family was the basic social, economic, and political unit of colonial society. The upper class of the Recôncavo, composed of inter-related family units, continued without substantial alteration until the twentieth century.

175 241 433 565 563 Despite the predominance of sugar cane and the engenho in the colonial Recôncavo--and in the literature on the region--other products and other institutions were important. It is clear that tobacco and manioc were the chief secondary agricultural products, but the development of the associated institutions is not documented. Presumably a class of small semi-subsistence cultivators occupied the lands unsuitable for sugar cane. This class probably was composed of whites lacking the capital for plantation agriculture and freed mulattoes and slaves--manumission was very common in the Recôncavo. The chief commercial product of these small farmers was rolo or corda tobacco (similar to a "twist" of tobacco),[22] and probably to a lesser extent farinha de mandioca (manioc flour). In addition, corn, beans, rice, and bananas were produced.

175 43 The colonial economy of the Recôncavo was not self-sufficient, in spite of the production of food crops and meat animals on small farms and on plantations. Near the beginning of colonization the livestock ranching industry, originating in coastal areas like the Recôncavo, migrated into the interior of the Northeast. Thereafter [231] a strong current of trade in animals, especially cattle, flowed into the Recôncavo from the São Francisco valley, from Ceará, and probably from the sertão of Bahia between the coast and the mountains. These animals were exchanged at the cattle fairs--notably at Feira de Santana--for the products of the coast and for imports from abroad.

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178 its vested interest in the traditional system is weaker. Thus on all
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181 social levels the old Recôncavo is being threatened.

For the present, however, tradition is a continuing and power-
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181 ful force in agriculture and in the economic and social institutions
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433 which surround agriculture in the Recôncavo.

128 orientation. This will be followed by a discussion of demography as a basis for the understanding of the agricultural economy.

181 The People of the Recôncavo - Introduction. The Recôncavo is the nucleus of a sub-culture which is a distinctive but integral part of the national culture of modern Brazil. Throughout Brazil the Baiano is characterized by a formality of behavior, an oratorical turn of speech, a sentimental attachment to the region of his birth, and a special accent which distinguishes him from the Mineiros, Paulistas, Gaúchos, or Pernambucanos of the other Brazilian regions.[4] These superficial distinctions seem to be a reflection of deep-seated differences in the culture and personality of the people who live in the Recôncavo and in the surrounding zone. On another level, the culture and personality of the people of the northeastern coast, including the inhabitants of the Recôncavo, is unlike that of the sertanejos (people of the arid northeastern interior--the Sertão).[5] Some of the culture and personality traits of the Recôncavo have a significant relationship to local agricultural phenomena.

178 181 241 567 The Baiano of today, as has been seen, is the product of several centuries of historical evolution along lines distinct from those of Central and Southern Brazil and to a lesser degree from those of the rest of the Northeast. A significant feature of the development of the Recôncavo was the social cohesiveness which derived in a large measure from the original strength and periodic re-enforcement of the slave labor latifundia system. Although this system was operative in other regions of Brazil, it was generally less highly organized, and its vestiges have had less impact on contemporary society. In the Recôncavo it remained the chief cohesive social force until the end of the nineteenth century, and cultural and economic survivals of the system remain in force today.

241 433 463 [369] [162] Economic Orientation of the Population. The Baianos of the Recôncavo are predominately an agricultural people. This is true not only of the actual cultivators and the associated economic classes of the countryside, villages, and towns, but also in a sense of the almost 350,000 urban peoples of Salvador. As a result of longstanding economic interdependence and continuous travel and migration back and forth, the associations of the people of Salvador with the soil are compelling and personal.[18] In their agricultural orientation the people of the Recôncavo are typical of the general Brazilian population. Even with the inclusion of Salvador, with its relatively [162] large number of domestic and industrial workers, 47 per cent of the male workers of the Recôncavo were classified as agricultural laborers, whereas for the nation as a whole the comparable figure was 57 per cent, and for the United States, 31 per cent.[19] In the Recôncavo, if Salvador is disregarded, agricultural workers (with hunters and fishers) composed 65 per cent of the total male working population.

241 433 441 Agriculture is even more important than the above figures indicate, for a large share of the remaining population of the Recôncavo is occupied with processing and marketing agricultural products, supplying the agriculturalists with goods and with credit, or serving indirectly the needs of agriculture. Thus it is evident that life and livelihood in the Recôncavo is essentially dependent upon agriculture. The agricultural orientation of the Recôncavo is reflected in the economic roles of individuals and classes, but also in the preoccupation of the people with matters of soil, climate, crops, and land value. In Salvador the price and market for agricultural products are commonplace subjects of discussion, and throughout the region merchants and businessmen observe the weather and conditions of the crops with interest and, on many occasions, with anxiety.

128 Demography of the Recôncavo. The discussion of the composition and distribution of the population in the Recôncavo which follows is intended primarily as a basis for the study of agricultural phenomena. As such it is concerned with those population elements which are important in the production and distribution of agricultural products and in the servicing of the agricultural economy. The agricultural labor force is therefore the primary object of analysis, while the remaining population elements receive secondary consideration.

128 The population of the Recôncavo has been divided into two
162 segments: (1) the rural population of the countryside and villages,
241 which includes those engaged in direct agricultural production and
464 those with a direct service or dependency relationship to agriculture;
369 and (2) the urban population of the towns and cities, which has an indirect service or dependency relationship to agricultural production. (Table VI). The rural population has been subdivided in order to distinguish the agricultural labor force, consisting of those in direct agricultural production as workers or as administrators, from the service and dependent groups.[20] The accompanying table (Table VII) relates the area, total population, urban and rural population, and agricultural labor force of the 21 municipios of the Recôncavo.

241 Agricultural Labor Force. Conceived in the narrowest sense,
464 the basic human resource for agricultural production in the Recôncavo
[162] consists of the energy and skill of 196,000 agriculturalists--the agriculture labor force (Table VIII). In census terminology these are people ten years old or over who consider their principal occupation as that of employer, employee, or worker in crop cultivation (agricultura), animal husbandry (pecuária), or silviculture. In the Recôncavo these people are primarily cultivators and operators of farms

[TEXT CONTINUED ON PAGE 112]

TABLE VII

RELATIVE POPULATION OF THE *MUNICÍPIOS* OF THE RECÔNCAVO IN 1950

Município	% of Area of Recôncavo	% of Total Population of Recôncavo	% of Urban Population of Recôncavo	% of Rural Population of Recôncavo	% of Agricultural Labor Force of Recôncavo
Alagoinhas	12	5	4	5	6
Cachoeira	3	3	2	3	2
Catu	3	2		3	3
Conceição da Feira	1	1		2	2
Conceição do Almeida	2	2	1	4	5
Coração de Maria	2	2		4	[illegible]
Cruz das Almas	2	3		4	5
Feira de Santana	17	10	5	14	15
Irará	11	4		8	10
Itaparica	2	2		4	1
Maragogipe	3	3	2	5	4
Muritiba	3	3	2	4	4
Pojuca	3	1		1	1
Salvador	6	39	79	5	6
Santo Amaro	9	8	2	13	10
Santo Estêvão	6	3		5	6
São Felix	1	1	1	2	2
São Filipe	3	2		4	5
São Francisco	2	1		2	1
São Gonçalo	4	3	1	5	4
São Sebastião	4	2		4	3

Calculated from *Características Demográficas do Estado da Bahia, No. 8* and *Anuário Estatística do Brasil-1953, Ano XIV*.

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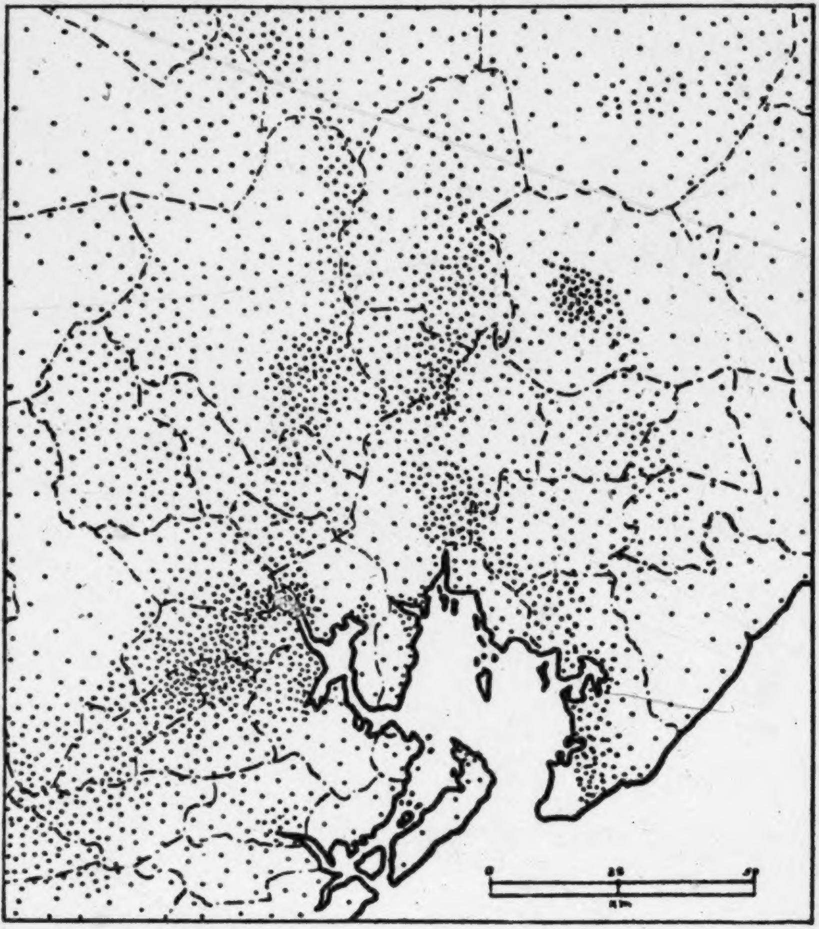

Each dot = 100 persons

RECONCAVO OF BAHIA

Agricultural Labor Force--1950

(Estimated)

Data estimated from Recenseamento Geral do Brasil; 1940. Censo Demográfico--Bahia, Vol. I, and (for 1950 data) Anuario Estatistico do Brasil-1953, Ano XIV.

MAP 17

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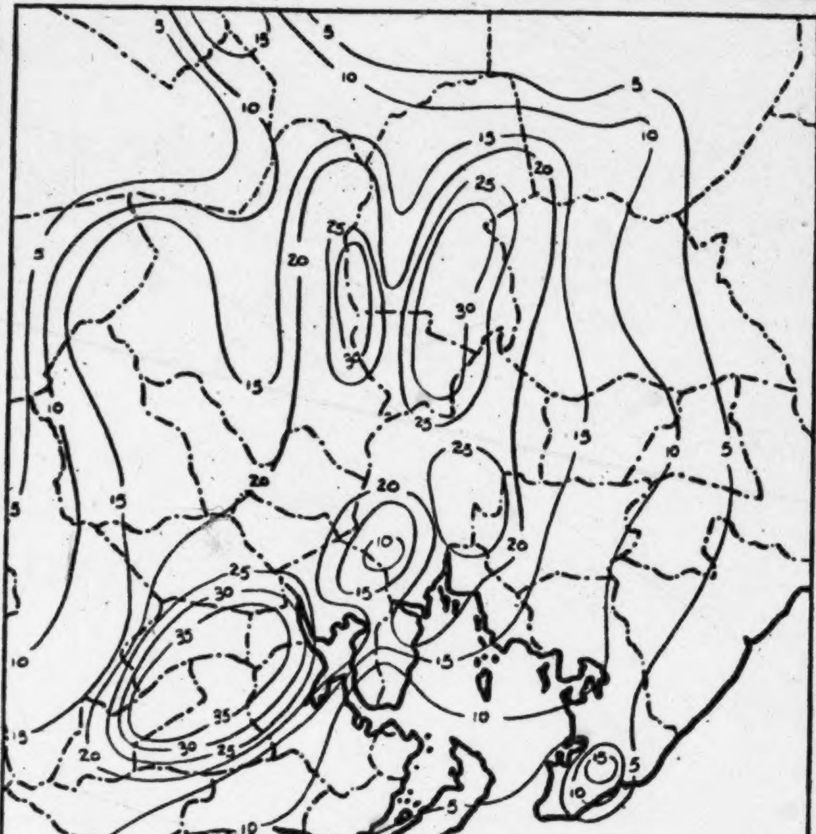

RECÔNCAVO OF BAHIA

Agricultural Labor Force per Square Kilometer of Total Area--1950
(estimated)

MAP 18

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464 and plantations, and to a lesser extent, ranchers and vaquéiros (cowboys).[21] Silviculture is not an important occupation in the Recôncavo.

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634 The mean density of the agricultural labor force for the Recôncavo was 15.7 per square kilometer. Since the distribution is very irregular, this mean density is far from representative of local situations—only six municípios had densities within 10 per cent of the mean. [128] Because of the uneven distribution of cultivation, mean figures for individual municípios, especially the larger ones, are likely to be equally misleading. [127] In the discussion which follows the gross distributions derived from census data have been modified on the basis of field observation and of inferences drawn from related demographic, cartographic, and agricultural information.[22]

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464 The density of agricultural workers in the Central Recôncavo (Map 18) is appreciably higher than in the surrounding areas, except in the southwest. This central zone has densities in excess of 20 per square kilometer, and within it are four areas with densities in excess of 25 per square kilometer. Along the border of the Recôncavo, densities usually fall to 10 per square kilometer. However, this is not true of the more densely occupied "bridge" zone which connects the area of heavy concentration in the Recôncavo, south of the Rio Paraguaçu, with the "coffee area" to the southwest beyond the Recôncavo. The map of densities (Map 18) and the dot map (Map 17) of the agricultural labor force suggest that this population segment is clustered in areas which generally have an eccentric location in relation to such centers as Salvador and the Baía de Todos os Santos.

Over 20 per cent of the agricultural workers of the Recôncavo live along the southern, western, and northern extremes of the region,

161 162 every section of which is more than 50 kilometers from Salvador, the
241 economic center of the Recôncavo, and also more than 50 kilometers from
464 the geometric center in Santo Amaro. If a line were drawn from the
161 cidade of Alagoinhas southwestward to the cidade of Nazaré, the
162 following municípios would fall entirely west of that line: Irará,
241 464 Coração de Maria, Feira de Santana, São Gonçalo, Conceição da Feira,
634 and Santo Estêvão--all north of the Rio Paraguaçu--and Muritiba,
Cruz das Almas, São Félix, São Filipe, and Conceição do Almeida--all south of the Rio Paraguaçu. These 11 of the 21 municípios of the Recôncavo are all more than 50 kilometers from Salvador--all are much farther in terms of land transport. In these eleven municípios live 125,000 of the 196,000 agricultural workers. In part, this eccentricity with respect to Salvador is a result of the shape of the land surface, with the city located at the end of a peninsula. Only one of these 11 municípios, São Félix, lies on tide water, and that at the extreme upper limit of navigation. The others are so arranged that they cannot make optimum use of the central position of the Bay, with its relatively cheap and direct route into the capital.

161 This eccentrically located belt is arcuate in form. It is the
162 demographic representation of the transition zone from forest to
241 464 scrub forest, which is often also the transition from the Coastal
[132] Plain to the Tabular or Crystalline Uplands. The concentration of
[133] agricultural labor in this belt is obviously significant from many points of view: social and political as well as economic.

Clustering is a characteristic pattern of Latin American population. The Recôncavo is the chief population cluster and the greatest single concentration of agricultural labor force within the state of

161 162 241 464 Bahia. The broad cluster of the agricultural labor force is composed of several major zones of concentration and two minor agglomerations.

(1) The Southwestern Concentration: The most important of these concentrations, in terms of total number of agriculturalists, occupies the southwestern corner of the Recôncavo. This concentration is a major segment of the eccentric belt discussed above. It is located [131] in the Crystalline Uplands and the Intermediate Hills, along the drainage divide between the Rio Paraguaçu and the Rio Jaguaripe. This is an area of tobacco and manioc cultivation. There are some 35,000 agriculturalists in this concentration, which spreads over approximately 1,000 square kilometers in six _municípios_—São Félix, Muritiba, Cruz das Almas, Conceição do Almeida, São Filipe, and Maragogipe. The _cidade_ of Cruz das Almas lies very near its center.

TABLE IX

AGRICULTURAL WORKERS—SOUTHWESTERN CONCENTRATION

[634]

Município	Distrito	Agricultural Workers 1950
São Felix	São Felix	2,568
	Outeiro Redondo	1,724
Muritiba	Muritiba	3,044
	Cabeças	1,699
Cruz das Almas	Cruz das Almas	6,038
	Sapé	1,845
	Baixa do Palmeira	1,476
Conceição do Almeida	Conceição do Almeida	3,878
	Comércio	2,038
São Filipe	São Filipe	4,931
	Cararipe	2,471
Maragogipe	Guapira	1,169
	Nagé	788
	Coqueiras	1,072
Approximately 1,000 square kilometers		34,741

With about 12 per cent of the Recôncavo's total area, the southwestern concentration includes 18 per cent of its agricultural labor force. In its core there are over forty agriculturalists per [634] square kilometer (the _município_ of São Félix as a whole has 42.05 per square kilometer), and this compact core includes São Félix, northern

161 São Filipe, northern Conceição do Almeida, southeastern Cruz das Almas,
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241 and the southeastern tenth of Muritiba.

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[634] The boundaries of this concentration are similar to the boundaries of labor concentrations in other parts of the western Recôncavo. To the southeast the density of the cluster declines sharply across the Intermediate Hills. There are very few fields and few farmers along the estuary of the Paraguaçu, which lies beyond the hills. Much of
[311] this land is in forest. To the west the decline in density is even more abrupt. In the dry caatinga beyond the western limits of Muritiba, Cruz das Almas, and Conceição do Almeida there are only a few scattered ranchers and small-scale farmers.

From the core of the concentration the distribution of agricultural workers continues to be relatively dense toward the north and toward the southwest, and this pattern extends across the "bridge" zone and into the coffee area beyond the Recôncavo. Just beyond the Recôncavo, in the middle of the "bridge," is the city and suburban zone of Santo Antônio de Jesus, which has a minor cluster of agricultural workers. The "bridge" follows the forest and scrub-forest transition.

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131 (2) The Northern Concentration: Though the northern and central clusters of the agricultural labor force of the Recôncavo are less well defined and individually less important than the southwestern cluster, they are major concentrations. In the northern Recôncavo a series of clusters extending through eastern Feira de Santana, Irará, and Coração de Maria are grouped in a rough "u-shaped" pattern. This concentration is the second major element of the eccentric belt of dense agricultural labor. The verticals of the "u" follow agricultural belts along the valleys of two tributaries of the (eastern) Rio Pojuca. This is a zone of Tabular Upland and caatinga vegetation.

161 Because it does not correspond to census divisions, it is diffi-
162
241 cult to determine the area and population of this "u" zone. Apparently
464 it has about 1,150 square kilometers and about 30,000 agricultural
[131] workers (Table X). Maximum densities within this zone are 30 to 40
per square kilometer.

TABLE X

AGRICULTURAL WORKERS--NORTHERN CONCENTRATION

[634]

Município	Distrito	Agricultural Workers 1950
Feira de Santana	Feira de Santana	9,840
	Tiquaruçu	1,725
Coração de Maria	Coração de Maria	4,176
	Itacava	4,332
Irará	Irará	4,130
	Bento Simões	1,675
	Pedrão	2,454
	Ouriçangas	2,683
Approximately 1,150 square kilometers		31,015

The "u-shaped" zone is linked with the southwestern cluster by a belt of moderate population density. This belt, running north to south along the caatinga-forest transition, is followed by the Feira de Santana-Cachoeira railroad.

161 (3) The Central Concentration: The central concentration of
162 agricultural labor, in east-central Santo Amaro, western São Sebastião,
241
464 and São Francisco--the sugar cane zone, is not a part of the eccentric
131 belt discussed above, but rather lies in the heart of the Recôncavo.
There are about 6,000 agriculturalists in the 300 square kilometers of this area. The maximum density is about 25 per square kilometer. In distinction to the concentrations discussed above, the central cluster is in the lowlands--the humid Coastal Plain. (see Table XI).

TABLE XI

AGRICULTURAL WORKERS--CENTRAL CONCENTRATION

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Município	Distrito	Agricultural Workers 1950
Santo Amaro	Rio Fundo	1,849
	Inhatá	1,542
	Mata de Aliança	920
São Sebastião	Jacuípe	1,036
São Francisco	São Francisco	804
	Santa Elisa	176
Approximately 300 square kilometers		6,327

(4) The Minor Agglomerations: Minor concentrations of agriculturalists surround two urban centers in the Recôncavo: Salvador and Alagoinhas. Most of the 12,000 agricultural workers in the município of Salvador are grouped either in the northeast--close to the central cluster of the sugar cane zone--or around the capital city. The latter either live in the city or in the sub-urban areas around and between the various urban segments. These sub-urban cultivators primarily work to supply the large urban market. Alagoinhas lies in the midst of relatively unproductive taboleiros. The agriculturalists who serve its urban market and produce its chief commercial crop--oranges--are gathered compactly in a symmetrical ring around the city. [245]

[131] The concentrations discussed above account for some 80,000 (41 per cent) of the agricultural workers and 3,150 square kilometers (25 per cent) of the area of the Recôncavo. In general, a straight line from the southwestern tip of Conceição do Almeida to the southern tip of Serrinha is the western limit of moderately dense distribution of the agricultural labor force. Beyond this line, in the caatinga of Feira de Santana and Castro Alves, there are few agricultural workers. However, in the caatinga of the município of Santo Estêvão and the adjacent part of Feira de Santana there is a zone with a population density of about 15 per square kilometer--higher than anywhere

161 162 else along the western border. This modest concentration, scarcely a
241 464 cluster, represents the sum of a number of small agricultural settle-
[361] ments scattered along the humid slopes of low serras. There are about
12,000 agricultural workers distributed over this area.

161 The distributional pattern of the rest of the Recôncavo can be
162 visualized as a coarse net in which the clusters are linked by areas
131 with population densities of 10 to 20 per square kilometer. There is
241 464 one large hole in this connecting net: along the common border of
Cachoeira, São Gonçalo, and Santo Amaro there is a zone with less than
ten and sometimes less than five agricultural workers per square
[133] kilometer. This zone, very near to the center of the Recôncavo, for
the most part is an area of rough sandy hills bordering the crystalline--
here the hills are particularly rugged and the transition zone broad.
On three sides--southwest, north, and northeast--this sparsely settled
zone is bordered by important clusters of agriculturalists.

161 The agricultural labor force of the Recôncavo is, as has been
162 seen, irregularly distributed. This distribution is highly fluid--
241 464 movement and growth and decline are continuously altering the pattern.
The whole region gained about 6,500 agriculturalists between 1940 and
1950, but these statistics do not reflect the extent of local reloca-
tion.

161 In the central Recôncavo one município, Santo Amaro, lost
162 241 almost 6,000 agricultural workers between 1940 and 1950, and in three
464 634 municípios of the central and eastern Recôncavo, Santo Amaro,
São Francisco, and Pojuca, losses exceeded 20 per cent. On the other
hand, in three municípios of the uplands of the northern and northwestern
Recôncavo--Alagoinhas, Feira de Santana, and Santo Estêvão--there were
gains of over 20 per cent. Over all, twelve municípios gained and nine
lost agriculturalists; the mean change in the agricultural labor

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TABLE VIII

AGRICULTURAL LABOR FORCE OF THE MUNICÍPIOS OF THE RECÔNCAVO IN 1940 AND 1950

Município	1940 Agricultural Labor Force	Per cent of Change 1940-1950*	1950 Agricultural Labor Force—Estimated
Alagoinhas	8,922	25	11,152
Cachoeira	4,367	- 3	4,236
Catú	5,395	- 5	5,125
Conceição da Feira	3,132	7	3,351
Conceição do Almeida	10,066	- 7	9,361
Coração de Maria	8,205	3	8,451
Cruz das Almas	8,763	6	9,289
Feira de Santana	26,140	16	30,322
Irará	19,920	- 2	19,522
Itaparica	1,379	10	1,517
Maragogipe	7,513	2	7,663
Muritiba	8,959	15	10,303
Pojuca	2,575	-31	1,777
Salvador	7,697	57**	12,075**
Santo Amaro	25,566	-23	19,686
Santo Estêvão	9,315	20	11,178
São Félix	4,086	6	4,331
São Filipe	10,327	- 2	10,120
São Francisco	2,373	-22	1,851
São Gonçalo	8,872	- 4	8,517
São Sebastião	6,395	4	6,651
Recôncavo	189,967		196,468

*Calculated change in rural population from 1940 to 1950. It has been assumed that the agricultural labor changed at the same rate as the rural population.

**Because of a change in the method of totaling the non-urban population of Salvador, it was not possible to derive the 1940-1950 rural population change in the usual manner. The 1950 figure is the mean of three estimates of increase derived from total population change 1940-1950, rural quadrant change 1940-1950, and per cent of total population in agriculture 1940 projected to 1950. These estimates were, in order, 11,097, 12,517, and 12,700. The rural quadrant is a statistical subdivision of the município which does not necessarily include all the rural areas.

Source: Recenseamento Geral do Brasil: 1940. Censo Demográfico—Bahia. Vol. I, and Anuário Estatística do Brasil-1953, Ano XIV.

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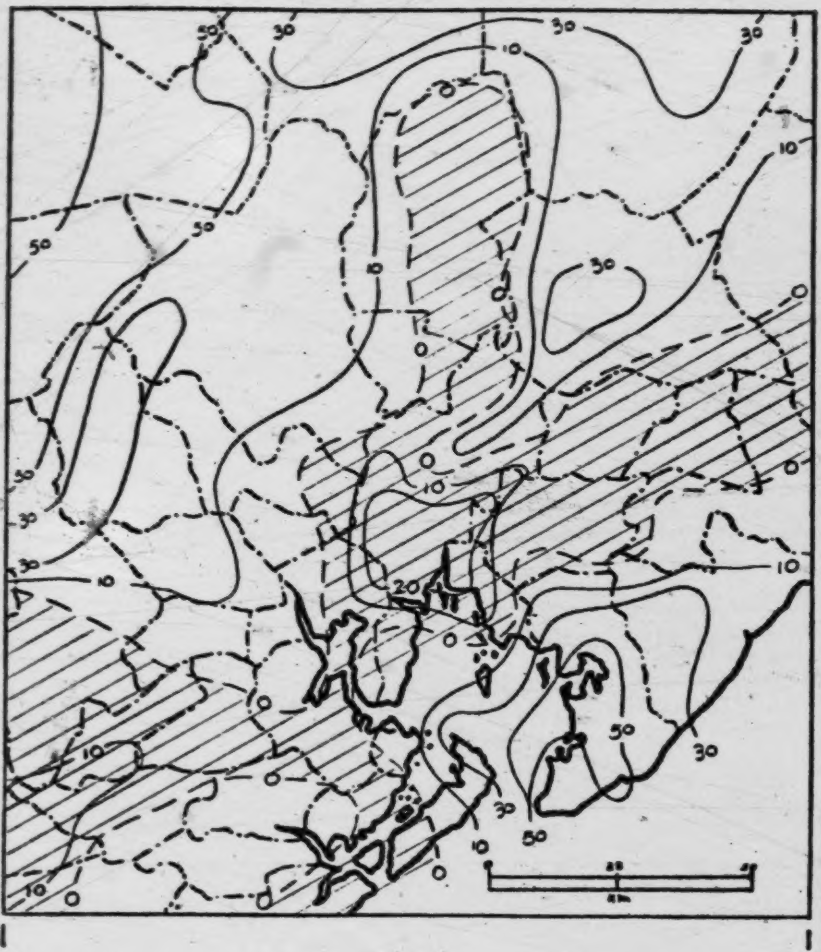
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RECÔNCAVO OF BAHIA

Per cent of Change in the Agricultural Labor Force (Estimated) and in the Rural Population from 1940 to 1950

Shaded area shows zone of loss of agricultural labor force.

MAP 19

161 force of the 21 *municípios*--without regard to direction of change--was
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241 13 per cent.
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In general the area around Salvador and the northeastern and western margins of the Recôncavo gained in agricultural labor force (Map 19). The Central Recôncavo and areas in the north-central, eastern, and southwestern Recôncavo lost agriculturalists between 1940 and 1950. Some of the factors which produced these changes were local; others were identified with the Northeast or with Brazil as a whole.

The growth of cities in the Recôncavo is a manifestation of a nationwide phenomenon. The expanding urban centers create an increasing market for agricultural products which, because of the difficulty of transportation and the lack of food processing facilities, must be supplied primarily from local sources. These expanding markets attract discontented or displaced agriculturalists, who settle as close to the urban center as possible. There is a marked increase in the concentration of agricultural labor around Salvador, Feira de Santana, and Alagoinhas.

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In 1950 and 1951 the urban trend and its agricultural concomitant was re-enforced by a specific Northeastern phenomenon--the flight from the drought (*sêca*) of the interior. Most of the refugees (*flagelados*) from the dry *sertão* settled along the periphery of the Recôncavo. Here, where they could remain close to their cherished *sertão*, much land was open for squatters. As indicated above, others settled around the urban centers of the Recôncavo *caatinga* zone--Feira de Santana and Alagoinhas.

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Observations suggest that the greatest relative increases in agricultural labor force from the *sertão* were in the *municípios* bordering the Recôncavo on the west and north, where the "normal"

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agricultural population is small. However, refugees from the drought also found their way into most parts of the Recôncavo. Even in 1953 they were to be encountered as squatters in Muritiba, as cane field workers in Santo Amaro, and as porters in Salvador.

Refugees from _sêcas_ usually have not become permanent additions to the labor force of the Recôncavo. The _sertanejo_ of the Northeast is renowned in Brazil for his attachment to his _terra_ (native soil), no matter how cruelly it treats him. Especially those migrants who settle as squatters on the margins of the Recôncavo seem only to wait for the renewal of the rains to return to the _sertão_. In 1953 migrants were still entering the Recôncavo along the Feira de Santana-Salvador highway, but others were boarding the train in Salvador and returning to the _sertão_. They had come from the _sertão_ on foot or by begging rides on trucks, found jobs in the Recôncavo, saved a few _cruzeiros_, and were returning to their native _terra_. Some refugees remain in the Recôncavo, of course, but the number is proportionately very small.

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Several sections of the Recôncavo, notably the sugar cane zone, are losing rural population and agricultural labor at a serious rate. The _municípios_ of Santo Amaro and São Francisco lost 6,400 agriculturalists between 1940 and 1950. The reduction in the number of agriculturalists in the sugar area is at least partially a symptom of the growing rationalization of labor under the big _usinas_, which increasingly dominate the sugar industry. The emigration from these areas is selective--the majority of the emigrants are young adults who leave to seek employment and broader opportunity elsewhere.

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Emigration within the Recôncavo is one current of the great tide of agricultural unrest ascribed to all of Brazil.

> The rural Brazilian of the lower classes is notorious for his nomadic or migratory habits, for his lack of permanent attachment to the soil, for his tendency to

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> shift about from place to place. In few nations are such large proportions of the rural people, who in turn are three fourths of all people, so constantly on the move.[23]

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In the Recôncavo this shifting is like a game of musical chairs, in which the odd participant, probably thinking himself lucky, goes to Salvador. The exchange of places occurs on many levels: there is movement from plantation to plantation within the sugar zone, even between plantations operated by the same usina.[24] Many agricultural workers shift from one to another of the various agricultural zones within the Recôncavo.[25] These shifts of population in the Recôncavo primarily involve the agricultural laborers, share croppers, and tenant farmers. The landowners move only under the strongest pressure, and the upper class landowners are as immobile as the lower classes are migratory. However, these landowners compose only a small part of the agricultural labor force.

Another fluid element in the agricultural labor force of the Recôncavo is seasonal labor.

> Itinerant seasonal agricultural labor has for a long time been an important element in the sugar zones of the Northeast where at harvest time many of the cane cutters come from the "agreste" or even from the "sertao" into the "mata" zone.[26]

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The principal source of this seasonal labor for the Recôncavo is the small farmer class of the sertão of Bahia north of the Rio Paraguaçu and east of the Chapada Diamantina. These workers are males, exclusively; the number involved is not known, but it is probably on the order of 5,000. Some sertanejos return again and again to the same fazenda or usina; others change their place of employment from year to year. They all return to the sertão at the beginning of the wet season to plant gardens for their families and to harvest cotton and other crops.

241 The skills of the 196,000 workers are an important agricultural
[464] resource in the Recôncavo. This resource can best be evaluated in
terms of the prevailing agricultural systems: hoe and rudimentary plow
agriculture. Hoe agriculture is universal in the Recôncavo, and in a
society so thoroughly permeated with agricultural activity it is fair
to assume that, except for some completely urbanized laborers in
Salvador, all workers are familiar with the simple tools of this form
[249] of cultivation. Plow cultivation is more specialized; it is used
throughout the sugar cane zone but only in preparing the fields for
planting. The seedstalks are covered with a hoe, and knives are used
[407] for weeding and harvesting. Outside the sugar zone plows are rarely
encountered.

[231] The domesticated animals which play a prominent role in culti-
vation in the Recôncavo are oxen, horses, mules, and donkeys, and
the rudiments of their management are almost universally understood.
The prominent crops of the Recôncavo are ubiquitous—manioc, corn,
beans, sweet potatoes, peanuts, tobacco, sugar cane, bananas, and
oranges are grown in all areas, and their cultivation under the pre-
vailing agricultural system is common knowledge. There is little
present need for agricultural labor specialized beyond this level.

241 It is clear that the introduction into the Recôncavo of new,
178 radically different crops or techniques of cultivation would alter this
[181] relatively favorable situation. The agricultural worker of the Recôncavo,
like his counterpart in many other parts of the world, is inherently
conservative. As in the past, he will continue to resist even minor
changes, such as improved methods of seed selection in corn or im-
proved curing of tobacco. More radical changes would probably be
[212] resisted more strongly. The problem of "selling" new ways of pro-
ducing agricultural products is difficult not only because of the

241 178 212 satisfaction with traditional ways but also because the low level of literacy makes difficult even the presentation of new methods. The low level of literacy directly limits the media available for propagation of new ideas, and there is little consciousness of the existence of other methods in other areas. These factors restrict the intellectual horizon and reduce the tolerance for change.

241 407 [242] [354] As yet, mechanized agriculture is almost unknown--there are probably less than fifty tractors in the entire Recôncavo. Agricultural machinery is confined almost exclusively to government agricultural experiment stations and extension services or to the largest sugar fazendas--in 1952-53 the tractors of the fazendas were largely unused because of the lack of new parts or general unsuitability for the tasks at hand. A very small number of agricultural workers have had any experience with agricultural machinery. The introduction of large quantities of farm equipment would raise many problems related to skill and receptivity. [493] However, the truck, bus, and jeep are omnipresent in the Recôncavo, and the number of competent drivers and mechanics is surprisingly large. Most of these mechanically skilled workers live in the cities and towns, but some are available everywhere, especially in the sugar area. In this area, too, many workers have had experience with such massive equipment as the ox-plow. Thus the introduction of tractors and their accessories into the sugar zone, the area most adapted to mechanization at the present moment, would find at least a small cadre of experienced workers available.

241 461 In addition to skills, the mode of labor and the attitude toward work are important factors in evaluating the agricultural labor force. Agricultural work in the Recôncavo tends to be a joint enterprise--it is joint effort which makes it possible to perform many heavy or 000 arduous tasks with little mechanical assistance. On the cane plantations

241 462 857 On the cane plantations the field work of planting and harvesting is done by labor gangs composed of men, women, and older children. There is some specialization: men cut the cane, women gather and pile the cane stalks and leaves, and the older children assist at these tasks and at managing the ox carts. The smaller children remain at home, where they are responsible from a very early age for some household tasks.

241 592 462 857 Outside the sugar zone the family is a basic labor unit. Men, women, and children work in the fields as required and participate in processing tobacco and manioc. To an even greater extent than is characteristic of the sugar zone the children participate in family tasks, and as soon as they can manage the hoe, they join in the field work.

461 [565] The upper class Baiano seldom does physical labor—to do physical work is to lower one's status. In the lower class work would seem to be approached as a somewhat unpleasant necessity which is best tackled in a cheerful and convivial atmosphere. The agricultural laborer is given to spells of extremely hard work interrupted by banter and occasional "horseplay." While the lone worker often seems rather cheerless and plodding in the field, the shouted jokes, songs, and exclamations of groups of laborers frequently resound throughout the countryside. The intermittent vigorous labor seems to be an extension of play, for there is little social evaluation of hard work for its own sake.

Despite the enthusiasm and commotion which surrounds almost any effort, the per capita productivity of the worker in the Recôncavo 461 147 is relatively modest. In part this is a result of the intermittent character of the work, but a more important factor is the limited energy of the worker. The lower class of the Recôncavo is weakened by perennial hunger, bad diet, and disease.[27]

241 As has been shown, the 196,000 agricultural workers in the
464 Recôncavo in 1950 formed a relatively distinct cluster within Bahia.
[131] These workers were concentrated especially in an arcuate belt near the
western and northern frontiers, in the sub-urban zone of the larger
cities, and in the central sugar zone. They were in complex motion,
the net result of which was to reduce, in the decade 1940 to 1950,
the agricultural labor force in the Central Recôncavo and to increase
the labor force near the cities and along the western frontier. The
labor force generally is adequately skilled for the agricultural
tasks of the present system, but its tolerance for new ideas is
[461] limited. The agricultural workers can work cheerfully and hard, but
usually do so only with frequent interruptions, and the individual
level of energy is low.

162 Rural Population. The agricultural labor force of the Recôncavo
241 is a functionally but not residentially distinct segment of a larger
464 population assemblage, the rural population. Rural population, as
463 used here, includes not only the people of the countryside but also
the village and town dwellers of all settlements without industrial
establishments.[28] Although this assemblage can be defined in approximate residential terms as a rural population, it is considered here primarily as a functional grouping which includes agricultural workers and elements of all other major occupational groups except industrial workers. In this overwhelmingly agricultural society the associations of the non-agricultural occupational groups of the rural area with agriculture are of primary economic importance and compelling personal interest. While most of the agricultural workers are rural in the strictest sense, living in the countryside and on the fringes of the villages, towns, and cities, many others live within the small and

162 241 464 463 some in large urban centers. On the other hand, occupational groups sometimes considered to be urban--shopkeepers, for example--may have residences and places of business in the countryside. Thus it is not possible to differentiate occupational groups precisely on the basis of residence.[29]

162 241 464 In 1950 the rural population of the Recôncavo, as defined here, included 578,508 people. This assemblage represented about 54 per cent of the total population of the Recôncavo. Its distribution was broadly but not precisely comparable to that of the agricultural labor force, as will be seen.

162 241 464 463 The agricultural labor force, which has been discussed above, composes 34 per cent of the rural population. The remaining 66 per cent will be called the "service segment" of the rural population. This segment is composed primarily of the following elements: merchants, tradesmen, and speculators who buy agricultural products and supply the simple needs of the agriculturalists; indirect service groups such as financial agents, public administrators, and transport workers; and minors and dependent women.[30] All of these are directly or indirectly dependent upon the agricultural economy. This dependency is, of course, mutual: the farmer of the Recôncavo is, at least partially, a commercial agriculturalist who must market his products in order to purchase food and clothing. However, the agriculturalist is the primary producer; the service segment basically is auxiliary to the agricultural economy.

241 463 464 [162] The map (Map 20) of the service segment relative to the agricultural labor force reveals several significant contrasts. In the outer Recôncavo--from the southwest corner around the periphery to the northeast--the service segment is from 1.5 to 2.0 times the agricultural labor force. As will be seen, this is the zone of tobacco

[TEXT CONTINUED ON PAGE 129]

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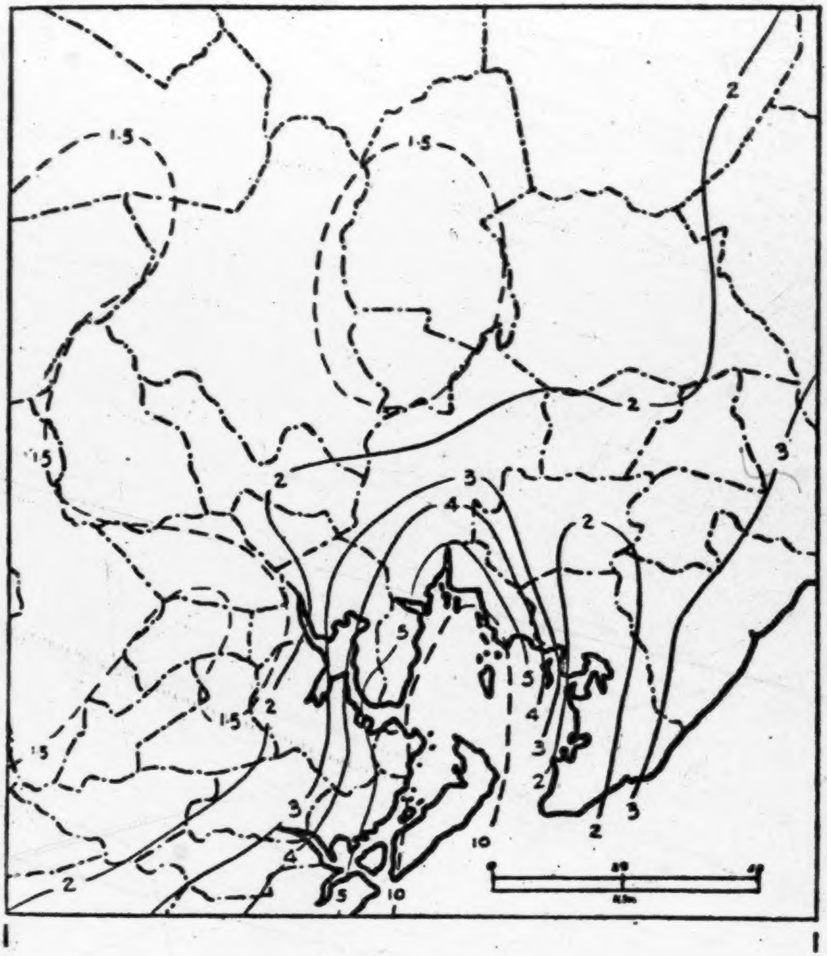
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RECÔNCAVO OF BAHIA

Ratio of the "Service Segment" of the Rural Population to the Agricultural Labor Force--1950

(estimated)

MAP 20

241 463 464 and manioc production. While there is some processing of agricultural products in this zone, the trade centers primarily are local, and there have been few historical reasons for urban development.

463 433 241 Around the Bay the relative size of the service segment increases to five, even to ten times the agricultural labor force. In this area there are some alternative productive pursuits, fishing and charcoal burning, for example. The definition given for the "service segment" is less appropriate in this zone: the fishermen, for example, render their service primarily to the major urban centers rather than to the agriculturalists. Moreover, there is a large parasitic group, especially in the sugar zone. The decline and rationalization of the sugar industry have left an unproductive class living in waning state but still supported by the agricultural economy. The sugar industry, which is more efficiently organized than other agricultural enterprises in the Recôncavo, probably is better able to support parasitic elements.

464 241 In addition to providing services, the service segment is the local labor reserve for agriculture. The extent of the reserve depends not only on the size of the service segment, but also on its composition. For example, in the western and northern areas of the Recôncavo, where two-fifths of the people are agricultural laborers, perhaps an additional one-fifth consists of small children and the aged and infirm. If those who perform essential services, basic to the economy, are deducted from the remaining two-fifths, few are left for a labor reserve. Fortunately the tobacco-manioc economy of the Recôncavo has little need for seasonal labor, and long-term labor needs, in theory at least, can be filled from the sertão.

464 In the sugar cane zone and on the Bay margins the general labor reserve is larger. However, this reserve is drawn upon by the labor

464 extravagant urban centers, the oil field and refineries north of the Bay, and the fishing and shipping industries. Moreover, this area has [565] a larger upper-class element, which as has been seen, could be counted upon to perform manual labor only under dire circumstances.

464 241 Thus in all parts of the Recôncavo the local labor reserve readily available for agricultural production and expansion is small. In compensation the general high mobility of the lower class would make available non-local reserves,[31] providing the proper incentives were offered. The exploitative agricultural system of the Recôncavo is ill-equipped to offer these incentives.

162 369 433 Urban Population. The remaining 493,944 people of the Recôncavo, 46 per cent of the total 1950 population, lived in the nine major urban centers. These people have much the same relationship to agricultural production as the "service segment" discussed above, but the relationship is less direct. These urban centers are engaged almost exclusively in serving and in exploiting the agricultural population of the Recôncavo and other agricultural areas of Bahia.

633 162 Salvador is the dominant city of the Recôncavo and of Bahia. In 1950 it contained 389,422 people, 36 per cent of the total population of the Recôncavo and 8 per cent of the total population of Bahia, or 79 per cent of all urban people of the Recôncavo and 41 per cent of all urban people of the state. The next largest city in Bahia was Feira de Santana--less than one-fourteenth the size of Salvador.

633 Although Salvador is the fourth city in Brazil, it is much smaller than either Rio de Janeiro or São Paulo and somewhat smaller than Rocife.[32] It ranked just above Pôrto Alegre in total population. Salvador, often called either Bahia or _o_ _capital_, cannot be interpreted entirely or even predominately in terms of the Recôncavo. While its

[TEXT CONTINUED ON PAGE 132]

The other urban centers of the Recôncavo:

633 [162] [443]

	1950 Population
Maragogipe	9,744
Muritiba	7,452
Cruz das Almas	6,758
São Gonçalo	3,771

[277] [504] [361] are all local trade and cigar manufacturing centers. Maragogipe is a port of minor importance.[37] The other urban centers have inland locations, near the inner edge of the Crystalline Uplands.[38]

Near the Recôncavo are four urban centers which have minor but appreciable effect upon its agricultural economy:

[162]

	1950 Population
Santo Antônio de Jesus	11,417
Nazaré	11,215
Castro Alves	6,479
Serrinha	4,602

Santo Antônio de Jesus and Nazaré are located along the southern periphery of the Recôncavo, and Castro Alves and Serrinha on the southwestern and northwestern periphery, respectively. [496] All these centers are on one of Bahia's two main railroads, both of which terminate at the Bay--at Salvador or at São Roque do Paraguaçu.[39]

633 464 433 [162] In 1950 the nine major urban centers of the Recôncavo had 100,000 to 120,000 workers in industry, transportation, and merchandising.[40] In all cities of the Recôncavo, except Salvador, the industrial workers almost exclusively were engaged in processing agricultural products--in sugar refining, cigar manufacturing, and slaughtering. [231] [241] Except for some of the animals slaughtered in Feira de Santana and the poorer grades of tobacco brought in from the sertão, these agricultural products originate in the Recôncavo.

The industrial structure of Salvador is more complex. It processes agricultural products from the Recôncavo, but also from other parts of the state, notably cacao. There is a small textile industry. It is probable that the majority of the industrial workers are employed in numerous small service industries which supply Salvador

BB
633 and, to a lesser extent, the rest of the Recôncavo and the state. The
464 relatively large and affluent upper class of Salvador utilizes an
433 extravagantly large number of domestics and of industrial workers--in
food, clothing, and construction industries.

BB Conclusion. The preservation of traditional values among the
178
181 people of the Recôncavo is evidence of the survival value of their
433 conservative culture, but the relatively slow growth of the population
161 is indicative of a declining economic rôle in the nation. Although
B
BB the population of both Brazil and the Recôncavo grew between 1940 and
161 1950, Brazil's population increased 26.5 per cent, the Reconcavo's only
162 16 per cent. In Brazil as a whole, urban populations increased 46 per
cent, in the Recôncavo only 34 per cent. The rural population of
Brazil increased by 17 per cent; the approximately comparable figure
for the Recôncavo was 4 per cent.

Within the Recôncavo the net effect of population changes in
the decade 1940 to 1950 was the reduction in rural population from
60 per cent to 54 per cent of the total population (see Table XIII).
BB Even more serious, from the agricultural point of view, was the
161 decline in the relative number of agricultural workers. Despite the
162
241 influx of agricultural people from the sertão, the percentage of the
464 total population in the agricultural labor force fell from 21 per cent
(1940) to 18 per cent (1950).

BB The greatest single concentration of population in the Recôncavo
633 is the city of Salvador. One-third of the people of the region live
[162] in this predominant city, occupying the tip of the peninsula which
separates the Baía de Todos os Santos from the sea. In this eccentric
peninsular location, Salvador is relatively distant from the main
centers of agricultural production and has only circuitous land

TABLE XII

COMPOSITION OF RECÔNCAVO POPULATION 1940-1950

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Year	Total Population	Urban Centers	Rural Population	Agricultural Labor Force
		Absolute		
1940	924,032	368,932	555,100	189,967
1950	1,072,452	493,944	578,508	196,468
Change	+ 148,420	+125,012	+ 23,408	+ 6,501
		Relative		
1940	100 o/o	40 o/o	60 o/o	21 o/o
1950	100 o/o	46 o/o	54 o/o	18 o/o
Change		+ 6 o/o	- 6 o/o	- 3 o/o
		Growth of Recôncavo Population		
1940 to 1950	16 o/o	34 o/o	4 o/o	3 o/o
		Per cent of Total Growth		
1940 to 1950	100 o/o	84 o/o	16 o/o	4 o/o

633 connections with the western section of the Recôncavo. On the other hand, its location combines oceanic access with the rest of Brazil, Europe, and the Americas and a direct approach, via the Bay, to all of the central municípios of the Recôncavo.

161 The major concentrations of rural, agricultural population in
162 the region are in the outer municípios of the Southwestern, Northwestern,
241
464 and Northern Recôncavo. In the southwest, there is a notable concentration on the Crystalline Uplands. In the northern part of the Recôncavo, the concentrations lie along the dissected edges of the Tertiary
[134] taboleiros. Thus most of the agricultural people of the region live
[132] in upland areas of deep, porous soils and marginal rainfall. The only major lowland concentration of agricultural people is in the area of Cretaceous clay soils on the Coastal Plain of the Central
[249] Recôncavo. The relatively small size of the agricultural population
[178] in this area is reflective of the declining role of sugar cane cultivation in the Recôncavo.

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464 "Falta de braços"--lack of labor--is a problem much discussed in the Recôncavo. The landholders, merchants, and agronomists interviewed in the region almost invariably complained of the shortage of agricultural workers or renters. [461] At the same time, the level of per capita productivity of most agricultural labor remains low, and, as will be seen, there have been few attempts at improvement of agricultural techniques. Neither is there any apparent trend toward higher wages or higher returns on rented properties, which might attract more people to the area. The complaints of labor shortages must be viewed in the context of the systems of production and the economic organization of agriculture, which will be discussed in the following chapters.

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433 Several basic agricultural problems are prefigured in the analysis of the distribution of the population of the Recôncavo. The concentration of agricultural people in the western and northern municípios of the region corresponds, as will be shown, to a major area of agricultural production. Since this is also an area of marginal and irregular precipitation, it is almost inevitable that the level of production must be uneven and the lives of the agriculturalists unstable. The declining agricultural population of the Central Recôncavo is a symptom of the declining importance of the sugar economy, discussed previously, and of the centralization and rationalization currently under way. The alternating zones with high and low densities of population indicate the nuclear and separate character of the areas of agricultural production, detailed in the pattern of crop regions to be discussed in the chapters which follow.

CHAPTER V

CROPS AND CROPLAND DISTRIBUTION

BB 241 133 *Introduction*. The Recôncavo is an enclave of cultivated land
facing on the sea and more than half surrounded by the *Sertão* of North-
BB 361 241 133 eastern Brazil. It is one of a number of detached areas of dense settle-
ment and intensive crop cultivation scattered along the northeastern
coast--Pernambuco, Sergipe, Alagoas, and the states of the northern
coast of the "bulge" of Brazil have similar coastal nuclei. Indeed,
B 361 241 133 this littoral mode of settlement is characteristic of Brazil, although
in the center and the south of the country the concentrations of settle-
ment and cultivation are usually separated from the ocean by a belt of
rough hills or mountains. A glance at a population map clearly reveals
that Brazil is a coastal nation as far as the distribution of its
people is concerned; indirectly such a map demonstrates the coastal
distribution of crop cultivation. In this, Brazil somewhat resembles
the United States at the opening of the nineteenth century when it,
too, was altogether a nation of the Atlantic seaboard. The specific
BB 361 241 433 178 nuclear character of the Recôncavo dates from the beginning of its
settlement--it was from the first a region of crop cultivation, and the
settlement of the *sertão* of Bahia derived from the people and needs of
the Recôncavo. During the four centuries since the Portuguese first
came, the crops, animals, and systems of production of the Recôncavo
have retained much of their original character.

BB 128 241 The present chapter deals with the principal activity of the Recôncavo, the production of crops. As a preliminary to the discussion of the individual crops and their distributions, it is appropriate to

128 241 sketch the modes of cropland distribution which are characteristic of the region. This introductory discussion will be extended in the conclusion of the chapter, when it will be possible to discuss the general patterns of cropland distribution and the changes in the intensity of land use in terms of the specific component crops. The details of the practices of cultivation will be discussed in Chapter VI.

241 311 [171] The mean intensity of crop cultivation within the Recôncavo is high only in terms of the surrounding *sertão*. Indeed, there are very few areas of Brazil of any great size in which the intensity of land use is comparable to that of such areas as Northwestern Europe, Japan, India, or even the Midwest of the United States. The landscape of the Recôncavo is composed of a series of small, intensively utilized areas separated and surrounded by zones in which the cultivation of crops is scattered. As a result, the mean intensity of cultivation is low—for the Recôncavo generally, mean figures for agricultural phenomena tend to mask great differences between specific areas. As will be seen, the chief concentrations of crop cultivation are in the Central Recôncavo and on the seaward edge of the Uplands. The principal zones of scattered cultivation are in the Intermediate Hills, in the littoral forest behind the beach line, and on the interior margins of the Uplands where the Recôncavo gradually gives way to the *sertão*.

241 Even within the areas of relatively intensive cultivation, there are many interruptions. These gaps are not very conspicuous within the restricted confines of the sugar-cane growing Central Recôncavo, but elsewhere the continuity of the fields is broken by patches of second growth and by the slopelands and wet valley bottoms. Most of the cultivated areas of the Recôncavo seem to reflect the grudging acquiescence of nature to the efforts of man and not the triumph of the cultivator

241 over the forest or the caatinga. In most areas it is the second growth,
not the cultivated fields, which dominates the landscape.

241 The scale of the maps accompanying the following sections does
361 not allow the indication of one of the significant patterns of cropland
443 634 distribution in the Recôncavo—the concentration of cultivation around
the cidades, the political centers. Each cidade is the economic focus
of its municípios and is usually the primary market for the products of
[489] its cultivators. The poorly developed system of transportation in the
rural areas puts a premium on proximity to the market center. Thus in
most of the municípios there is a decrease in cultivation away from the
cidade, and where the municípios are large, such as on the northern and
western perimeter of the Recôncavo, cropland becomes very widely scattered
241 before the political boundary is reached. This centralized distribution
361 443 of cropland has been complicated by the development of roads and truck
491 traffic. Cultivators tend to cluster along the main highways with
little regard for the absolute distance to the market of the cidade;
accessibility as represented by time rather than distance seems to be
the more important factor in choosing land for cultivation, providing
that land is available. The pattern of concentration of cultivation
along the highway is especially characteristic of the Upland sections
of the Recôncavo.[1]

241 There are many exceptions to the modes of cropland distribution
178 mentioned above. In the Recôncavo tradition and prestige often contravene direct economic self-interest. On a large scale the persistence
of sugar cultivation is an example of the unwillingness to explore new
sources of income. In other areas the traditional social advantages
of land ownership may impede the subdivision of large properties into
farms or rented plots, even where hired labor is not available to
000 cultivate the land efficiently. Livestock production, which offers

231 241 [311] [554] Livestock production, which offers social prestige as well as economic gain, may occupy land within the cultivated area which more profitably could be devoted to crops. These factors, together with the eccentricities of political boundaries and the vagaries of terrain features, help to produce many distinctive local variations of the general geographical pattern of cultivation and of specific crops.

241 As will be seen in the following discussion, both land rotation (field and fallow) and permanent systems of cultivation are practiced in the Recôncavo. Under the land rotation system, the field is planted for a single year or for several years and is then abandoned to wild vegetation for a fallow period which, in some areas of the Recôncavo, has been reduced to as little as five years. Under the system of permanent cultivation, cropping is either continuous or is interrupted only by brief, widely-spaced fallow periods--in the sugar cane area, four years of cultivation are followed by one year of fallow. The significance of the data on the per cent of the area in cropland depends in part upon the system of cultivation employed.

127 241 231 Sources of Data. The statistical data used in the analysis of crops and animals in the following sections were drawn almost exclusively from two sources. Produção Agrícola: 1948[2] was the only source available with relatively complete data, gathered on a consistent basis, for the area, production, and value of the principal crops of Brazil by município units. This basic source has been supplemented by data for livestock taken from "População Pecuária em 31/12/1948."[3] In general these two sources provide a reasonably accurate and detailed statistical basis for the analysis of crops and livestock.

127 241 However, a careful inspection of the crop data, and especially the calculation of crop yields by combining area and production data, revealed obvious errors in the figures in a number of instances. Usually

127 the errors concerned crops of trivial importance, but occasionally the
241 use of such erroneous data would have produced serious misinterpretations.
Where this has been the case, it was necessary to estimate a more approp-
127 riate figure. Such estimates were developed by inferences from related
128 statistical data supported by observations in the field. The procedures
241 which were employed are illustrated in full in Appendix D through a
detailed analysis of the data (for manioc) which were most thoroughly
modified in this fashion. Wherever modified, rather than official data
have been used in the text, the official data and the basis of modifi-
cation have been indicated in a footnote or in the appendix.

241 Crops and Animals of the Recôncavo. A very large number of crops
433 are known to the agriculturalists of the Recôncavo, but the number of
important crops is small. It is convenient to divide these into three
groups--basic subsistence crops, basic commercial crops, and supplementary
(minor subsistence and commercial) crops. As will be seen, many subsis-
tence crops have their commercial importance, but the present concern
241 is only with a broad grouping. The crops of the Recôncavo are listed
433 below, together with their local names and the area of their cultivation
192 in 1948:

Basic Subsistence Crops:		
Manioc or Cassava (Mandioca)	22,472	hectares
Corn (Milho)	9,679	"
Beans (Feijão)	7,034	"
Bananas (Banana)	1,069	"
Peanuts (Amendoim)	550	"
Sweet Potatoes (Batata doce)	344	"
Basic Commercial Crops:		
Tobacco (Fumo)	21,886	"
Sugar Cane (Cana de Açúcar)	11,695	"
Coffee (Café)	2,941	"
Orange (Laranja)	1,116	"
Coconut (Côco)	876	"

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433
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Supplementary Crops (Subsistence and Commercial):	
Pineapple (*Abacaxi*)	168 hectares
Rice (*Arroz*)	61 "
Tomatoes (*Tomate*)	46 "
White Potatoes (*Batata inglêsa*)	44 "
Cotton (*Algodão*)	40 "
Onions (*Cebola*)	14 "
Garlic (*Alho*)	5 "
Green or Snap Beans (*Fava*)	4 "

241 311 245 On the basis of the above figures, the total cultivated land in the Recôncavo in 1948 was about 80,000 hectares. In addition to the above, there are a number of tree crops, not cultivated in the true sense, which are important in the agricultural complex. More often than not these "crops" are of spontaneous origin.

[192]

African Oil Palm (*Dendê*)
Mango (*Manga*)
Jack Fruit (*Jaca*)
Cashew (*Cajú*)
Bread Fruit (*Fruta de pão*)

231 The following animals are important in the livestock economy of the Recôncavo:

[192]

Cattle (*Bovinos*)
  Cows (*Vacas*)
  Oxen (*Bois de trabalho*)
Sheep (*Ovinos*)
Goats (*Caprinos*)
Swine (*Suínos*)
Donkeys (*Asininos* or *Burros*)
Mules (*Muares*)
Horses (*Eqüinos* or *Cavalos*)

These animals will be discussed in the chapter on animal industry (Chapter VII).

244 *Manioc*. Manioc was one of the most important cultivated plants which the Portuguese colonists borrowed from the Indians of Brazil. [175] [262] [178] [565] Flour made from the manioc root, *farinha de mandioca*, was the basic subsistence food of the colonial sugar economy and remains today the principal element of the diet of much of the Brazilian lower class. 000 Manioc production is most notable along the coast of Brazil, from the

244 311 represented by two adjacent *municípios* of the Eastern and Central Recôncavo--Pojuca, where manioc occupied 81 per cent of the total cropland in 1948, and São Sebastião, where it occupied only 2 per cent. However, the significance of this contrast is diminished when it is seen that the total cropland of all crops in these *municípios* was only .8 per cent and 4.7 per cent, respectively, of the total land area. In those *municípios* where over 5 per cent of the land area was cultivated, the range was from 8 per cent of the cropland in manioc—Irará—to 60 per cent—Conceição do Almeida.

244 241 311 There are two major zones in which manioc has pre-empted the cropland, both of which are marginal to a belt of commercial production of tobacco, sugar cane, or coffee which follows the forest and scrub-forest transition from the coffee zone northward into the Southwester Recôncavo. This commercial crop belt is paralleled on the east by a zone of manioc cultivation in the forested areas back of the beach line--a zone which is a continuation of an extensive area of monocultural shifting cultivation of manioc centered farther south.[12] Around the city of Nazaré, which lies very near the southern limit of the Recôncavo, as much as 70 per cent of the cropland is in manioc. The cultivation of manioc is also important on the sandy forested zone west of the Bay as far north as the estuary of the Paraguaçu and on the opposite side of the Bay north of Salvador. On the west side of the commercial crop belt, in Laje, Santo Antônio, and the Southwestern Recôncavo, there is another zone in which manioc is the dominant crop. In the dry *caatinga* the areas of cultivation are concentrated around the low *serras* west of the Recôncavo. However, the manioc which occupied up to 60 per cent of the cultivated area along the western limit of Conceição do Almeida in 1948 was grown as a part of the tobacco-manioc system.

249 134 132 Santo Estêvão. The third grade--"Feira"--is grown on the humid edge of the sandy Tertiary uplands. This suggests that it is soil which is the immediate control of quality, although precipitation is the over-all factor. Although the southern part of the zone of Tertiary soils is more humid than the crystalline zone peripheral to the Recôncavo, the tobacco of the former--"Feira"--is less valuable than the "Caatinga" grade of the latter. The drier Tertiary zone produces only fumo em corda but the even drier crystalline zone, stretching west to the Chapada Diamantina, manages to produce the cheap but salable "Sertão" leaf. Thus in every case the crystalline soils, with equal or even less precipitation than the Tertiary zone, produce a better grade of leaf tobacco.

249 433 In 1948 the yields of the main zones of tobacco cultivation were from 750 to 1,000 kilograms per hectare (Map 33). Yields were higher in the Central Recôncavo, where there is only trivial production of low quality leaf. Yields were also higher in isolated sections of the "Sertão" and "Caatinga" grade zones to the west.[17] The mean yield of the Recôncavo, 840 kilograms per hectare, was slightly above the 808 kilograms per hectare of the state of Bahia as a whole. This yield compares very favorably with the yield of Cuba, 640 kilograms per hectare, and Indonesia, 530 to 650 kilograms per hectare on Estates, but is lower than that of Mexico, 1,010, Canada, 1,360, or the United States, 1,400.[18]

[241] The production of most of the chief crops of the Recôncavo is somewhat stabilized by steady demand for food--in the case of manioc, corn, and beans--or by government control--in the case of sugar cane. In contrast, tobacco is a highly speculative and mobile crop. It is produced primarily by small cultivators in anticipation of a combination

[TEXT CONTINUED ON PAGE 172]

249 244 433 has made increasingly greater demands upon the land, at least during the decades between 1930 and 1950. In some areas, such as Cruz das Almas, the mean fallow period seems to have been reduced to a minimum of one or two years during the late 1940's. As the result of these developments the *município* seems to be faced with the necessity of either a decrease in production or a radical reorganization of the system of cultivation.[21]

249 241 433 However, tobacco is to Cruz das Almas or São Gonçalo what sugar cane is to the Central Recôncavo—a way of life. Agriculture without tobacco is both economically and culturally distressing to the cultivator of the Southwestern Recôncavo. Unlike the sugar cane planter, the [178] agriculturalists of the tobacco zone cultivate crops other than the chief commercial product, but as a cash crop they are very reluctant to accept any substitute. Habit is a very great force in the agriculture of all parts of the Recôncavo.

249 433 A result of the traditional and speculative orientation of the people of the tobacco zone is the extreme importance of tobacco—a commercial non-food crop—throughout the zone. In 1948, six *municípios* of the Recôncavo cultivated more tobacco than any other crop, and in five others it was second in importance. In only two *municípios*, Itaparica and Salvador, was it lower than fourth in area occupied.

243 433 *Corn*. Traditionally corn (*milho*) is a crop of the *caatinga* (scrub forest), and its greatest relative dominance is found just northwest of the Recôncavo in the *município* of Serrinha. It is, however, grown on a small scale throughout the Recôncavo, and there are at least two areas of intensive production. Corn is overshadowed by other crops, particularly manioc, tobacco, and sugar cane, in all parts of the Recôncavo except the North and the Northwest.

245 438 [471] Oranges, like coconuts, are usually grown on plantations. The capital investment in tree crops is usually too great for small cultivators. Moreover, as a highly perishable crop, oranges require more or less direct marketing, which is frequently beyond the capacity of the small grower. If oranges were marketed by trickling from the small grower through the hands of merchants, buyers, and the like, as is tobacco, they would be spoiled long before reaching the consumer. The small cultivator can market his handful of oranges only in the local market.

241 433 Supplementary Crops. Although the official data show only a very limited distribution of minor supplementary crops, their cultivation is not confined to those municípios where exceptionally conscientious [262] statistical agents have made detailed records. The common vegetables--green beans, onions, garlic, and tomatoes--are cultivated in small quantities in all parts of the Recôncavo and are a traditional part of Bahian dishes. Around the cities and towns there is some specialization [443] in vegetable farming, but there are no major concentrations. The Salvador market is supplied with produce from a broad rural zone which includes [489] most of the Recôncavo. The produce is brought to the city by donkey, truck, or by sailing boat.

The most important of the supplementary commercial crops is [134] pineapple, which is produced on the sandy soils of the Northern, and to a lesser extent, Southwestern Recôncavo. There is very scattered production of grapes, cotton, rice, and white potatoes, but there are no important centers of cultivation of these crops.

245 311 Minor Spontaneous Tree Crops. Mangoes are very common within the houseyards of Salvador and throughout the humid Coastal Plain. In

245 311 the peripheral areas of the region they are less common, but a few trees can be seen in almost every settlement. The cashew is more strictly confined to the littoral and especially to the sandy coastal zones behind the palm-laden beach line. Jackfruit and breadfruit are especially common in the eastern Crystalline Uplands. Scattered along roads and around houses, they provide shade for the yard or for coffee and an occasional fruit for sale in the local market. The African oil palm is encountered occasionally in most municípios of the Recôncavo, generally growing out of the wet valley floors. There are many oil palms on the island of Itaparica, but the only major area of commercial production [258] [438] in Bahia is on the coast south of the Recôncavo. The oil is prepared by boiling the seed, and the surplus oil is sold in small quantities on the local market.

241 311 Annual and Perennial Crops. Six of the major crops of the Recôncavo are cultivated as annuals--manioc, corn, beans, peanuts, sweet potatoes, and tobacco.[29] The major perennials are bananas, sugar cane, coffee, oranges, and coconuts. Over three-fourths of the cropland of the Recôncavo was in annuals in 1948 and about 22 per cent in perennials—including both tree and field crops. In the Recôncavo there is a very close connection between crop periodicity and land systems. The annual crops are produced almost exclusively under a system of land rotation, while the perennials are grown under a system of permanent cultivation. The zones of animals are generally mixed-crop zones, while the perennials are usually monocultural.

The main concentrations of annuals are on the uplands of the Northern, Northwestern, and Southwestern Recôncavo—the domain of manioc, tobacco, corn, and beans (Map 63). Perennials dominate the Intermediate Hills and the coastal lowlands—coconut palms on the beaches, sugar

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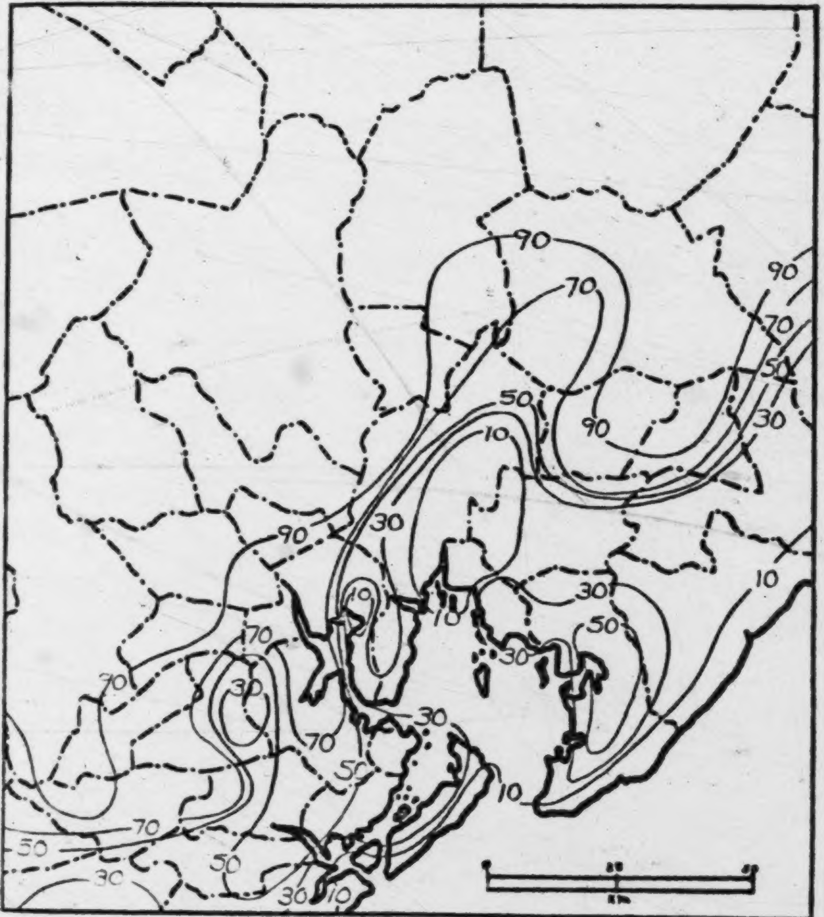
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10

RECÔNCAVO OF BAHIA

Per cent of Cropland in Annual Cultivation—1948

MAP 63

241 311 cane in the pockets of Coastal Plain, and coffee and sugar cane in eastern and southern São Filipe. Annuals, chiefly manioc, intrude into the lowlands and hills in two areas: west of the Bay, from Maragogipe to Nazaré; and east of the Bay, in the município of Salvador.

General Distribution of Cropland. The total cropland of the Recôncavo in 1948, based upon the sum of the areas of the individual crops, was about 80,000 hectares--6.4 per cent of the land surface of the region. This proportion compares favorably with the one per cent of the state of Bahia and the two per cent of Brazil which is cultivated. However, a comparison with areas of the same general character in the Northeast of Brazil is more appropriate and more unfavorable; in 1948 both Paraíba and Alagoas had ten per cent of their areas under cultivation in principal crops.[30]

249 311 The most intensive center of cultivation in the Recôncavo is the area of sugar cane production north of the Bay. If the land which is in fallow one year out of every five is added to the area of the cane fields, about 75 per cent of the total land surface of the area was included in the closed circle of cultivation and fallow in 1948. The smaller area of sugar cane cultivation at the head of the Bacia do Iguape had a similar, though less intensive, concentration of cultivated land.

249 244 311 In the Southwestern Recôncavo as much as one half of the total area was in crops in 1948. Most of this land, as has been seen, was in tobacco or manioc. A smaller nucleus of intensive cultivation north of the Rio Paraguaçu centered on the município of São Gonçalo, was also an area of the cultivation of tobacco and manioc. The rest of the northern part of the Recôncavo in which these two crops were

[TEXT CONTINUED ON PAGE 221]

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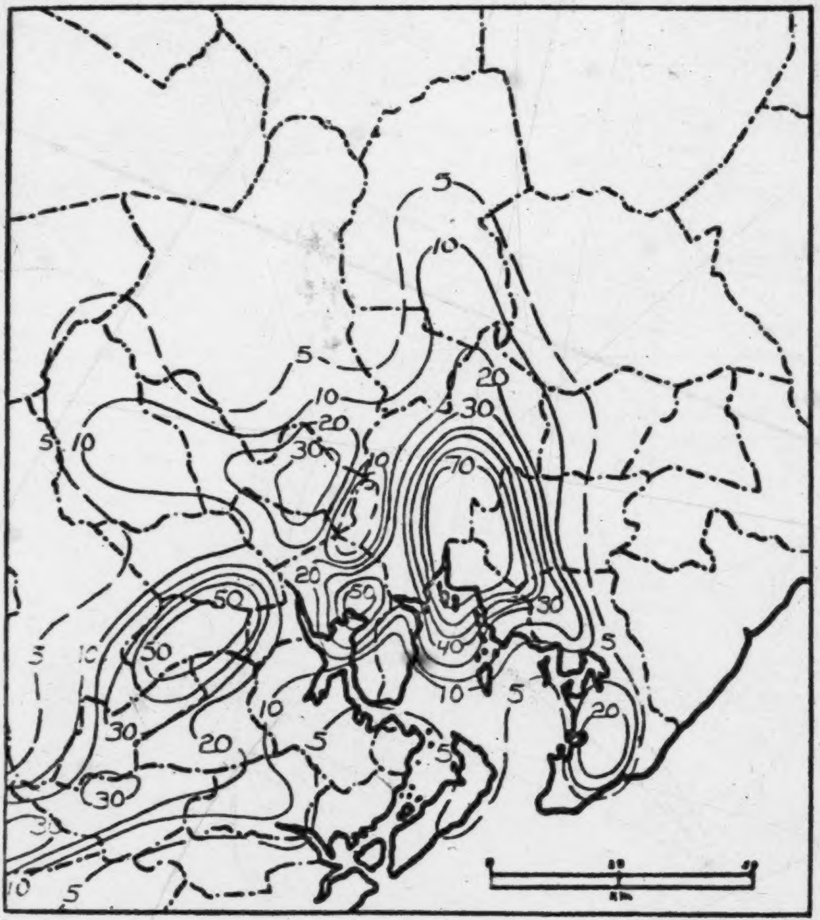

5
10
5
10
20
30
5
10
20
30
70
50
50
50
20
30
40
10
5
5
20
10
30
20
5
5
30
30
10
5
Km

RECÔNCAVO OF BAHIA

Per cent of the Total Land Area in Cropland--1948

MAP 64

249 244 311 important had less intensive cultivation than the two principal centers mentioned above.

241 311 Most of the remaining crops of the Recôncavo were either minor subsistence crops of general distribution, not of themselves accounting for any strong concentration of cropland, or were major crops produced in small separated centers of intensive cultivation. The Northwestern Recôncavo corn and bean areas, the coconut plantations of the beach line, the Southwestern Recôncavo sugar cane and coffee areas, and the suburban rings of orange production were zones where the mean intensity of cropland was low or, at best, modest.

There were two zones of very low intensity of cropland which have not been discussed previously because they did not have significant concentrations of individual crops. The belt of Intermediate Hills around [137] [231] the Central Recôncavo sugar cane area is largely forested, the scene of very scattered cultivation, livestock enterprises, and extractive industries. This belt was used, as will be seen, to provide fuel and to maintain a livestock reserve for the adjoining sugar cane area. The forested belt between the beach line and the inland areas of sugar cane and tobacco cultivation were used primarily for extensive systems of cultivation and for the small scale production of livestock. Only around the perimeter of Salvador was this forested belt intensively used, for in this area there were orange groves, manioc gardens, and a few very small truck farms.

241 311 178 [161] [434] Expansion of Cropland. There can be little question but that the Recôncavo as a whole was an area of expanding cropland in the 1940's.[31] In no other way could the increased food necessary for the growing population be supplied, for there were not then nor are there now external sources for large quantities of staples, excepting only livestock. There

241 are many local signs of the increase in cultivation—expanding rural
311
178 settlement, overcrowded market facilities, and stories of the "old days"
[361] when life was more leisurely and the land problem less severe. Two
areas of the Recôncavo are in great contrast as far as the trend of
land use is concerned—the Central Recôncavo on the one hand and the
249 outer Recôncavo, especially the Southwest, on the other. As a result of
311
178 the stabilization of the sugar industry by the Instituto do Açúcar e do
[654] Álcool and, undoubtedly, of the high fixed costs of the sugar industry,
[656] the area under cultivation in the Central Recôncavo has remained relatively constant. Indeed, since large-scale speculation in the cultivation of cane is no longer feasible, as a result of government control, it is possible that marginal lands have been withdrawn from cultivation or have been converted to other uses. However, the evidence of the present land use pattern, at least in the area north of the Bay, is against this hypothesis--there are no signs of abandoned cane fields and no extensive areas with any form of land use except those associated with the sugar industry. There are indications of the abandonment of cultivation near the lesser sugar cane area north of the Bacia do Iguape, but the state of the abandoned sugar mills suggest that the decline in cultivation took place before the last decade. In general, then, the area in cane probably was relatively stable during the 1940's and the 1950's, at least to 1953.

249 The situation in the areas of the cultivation of tobacco and
244 manioc is more complicated, in part because the economies of these crops
311
178 are not stabilized. The area in tobacco undoubtedly has fluctuated over
a wide range from year to year, although the area in manioc probably has tended to change more steadily, since it is a basic food crop. There seems to be no question but that during the 1940's the area in

249 244 311 178 tobacco and manioc increased in the zones of intensive production of both crops. Particularly in the Southwestern Recôncavo does the expansion of settlement, the present critical intensity of land use, the florescence of tobacco cultivation during the early 1940's, soil exhaustion as evidenced by the declining yields, and the testimony of the people of the people of the area attest to the increase during these years. Detailed field investigation in Cruz das Almas, in the heart of the Southwestern Recôncavo, indicated that if the intensity of cultivation shown by the 1948 figure is correct, then the cropland has declined in the years since. In 1948, according to the data, one-half of the total area of the _município_ was cultivated; in 1953 the total land in crops can scarcely have been more than one quarter of the total area, and there were several signs of decline. Although there was no mature second growth, there was a good deal of _capoéira de caatinga_ and _capoéira de mata_ (second growth) which was about one to three meters high, that is, from about two to six years old. Cruz das Almas seems to be the extreme case of a _município_ which went through a period of rapid growth and precipitous decline in these years, but the same processes undoubtedly have taken place in many of the other _municípios_ where tobacco was important. Probably none of these areas have returned to the 1940 level, because of the concomitant increase in the population and the fall in the productivity of the land in the years since.

241 311 178 There have apparently been major expansions of the cropland of two areas which border on the Recôncavo. Serrinha is known as a _município_ of recent agricultural expansion.[32] The growth of the _cidade_ of Serrinha in the last decade is a clear expression of greater agricultural production, although the new cropland is not in the vicinity of the city. Apparently the main expansion was around a group of low _serras_ and

241 311. 178 shallow lakes west of the *cidade*, along the border of Conceição do Coite, where intensive production of corn and beans on newly settled land could be observed in 1953.

The agricultural expansion in Santo Antônio and in Nazaré was more notable. Both of these *municípios* lie in a zone of continuing agricultural development which is contiguous with the Recôncavo and which shows signs of becoming an integral part of the region. If the criterion originally used to delimit the Recôncavo and define the area of intensive field investigation--over 20 per cent of the total area in agricultural use--were to be applied to the 1948 distribution of cropland, then Santo Antônio, though not Nazaré, would lie within the region. The current agricultural development of Santo Antônio, and to a lesser extent of Nazaré, is making these *municípios* progressively more like the Recôncavo.[33] The pattern of the production of tobacco and manioc in Santo Antônio is essentially the same as in the Southwestern Recôncavo. However, these two areas are still primarily oriented toward a zone along the Nazaré railroad, in which coffee and sugar cane, as well as tobacco and manioc, are important crops. For the moment, Nazaré and Santo Antônio are excluded from the Recôncavo, but with the explicit recognition of the possibility of new orientation.

000 [12] Centered in the município of Valença.

[127] [13] In the comparison of yields here and in the following discussion, the data for Brazil and for the other countries or regions have been taken from the 1948-1950 yields as given in: Food and Agriculture Organization of the United Nations, Yearbook of Food and Agricultural Statistics 1953, Vol. VII, Part I (Rome, Italy: Food and Agriculture Organization of the United Nations, 1954), pp. 1-334.

[128] [14] For a more detailed discussion of tobacco grades and zones, see Appendix E.

[15] Because of the great variations in tobacco area from year to year, the data for a single season are a less reliable guide to characteristic distribution for tobacco than for most other crops of the Recôncavo. The modifications which have been made in the official data are given in Appendix D.

[16] See Appendix E.

[17] The great local variation in yield in these zones is probably due to the concentration of the small quantity of tobacco in areas of highly diverse soils and irregular precipitation.

[18] However, this comparison should be considered with regard for the harvesting practices mentioned above.

[19] In ten of the thirteen years from 1939 to 1951, the area planted in tobacco in the Recôncavo rose and fell in accordance with the price of the preceding year. Data from: Instituto Bahiano do Fumo, Contribuição [127] do Instituto Bahiano do Fumo, A Report Prepared for the First National Tobacco Congress (Salvador, Bahia: Instituto Bahiano do Fumo, 1952), pp. 1-16.

[127] [20] The sources used in the discussion of tobacco production for 1931 to 1951, in this and the following paragraphs, were: (1) Instituto Bahiano do Fumo, Contribuição do Instituto Bahiano do Fumo, pp. 1-16; and (2) Antonio Nonato Marques, Geografia do Fumo na Bahia (Salvador, Bahia: Centro de Estudos Ruralistas Nonato Marques [1952]), pp. 1-85.

[128] [21] For a more detailed discussion of this aspect of tobacco-manioc cultivation, see the discussion of the tobacco-manioc system in Chapter VI.

[127] [22] The common practice of corn-bean interculture raises a problem in the interpretation of the statistical data which is discussed in Appendix D, as are modifications in the official data for corn.

[241] [351] [23] The typical American or European garden, a permanent area for the production of household vegetables, fruits, and herbs, is practically unknown in the Recôncavo. Garden crops are grown at odd places within the cultivated areas or scattered around the houses, except for a few small, fenced plots for food production within the sugar cane zone. In all these gardens there is a very limited variety of crops.

[128] [24] The system of sugar cane cultivation will be discussed in Chapter VI.

CHAPTER VI

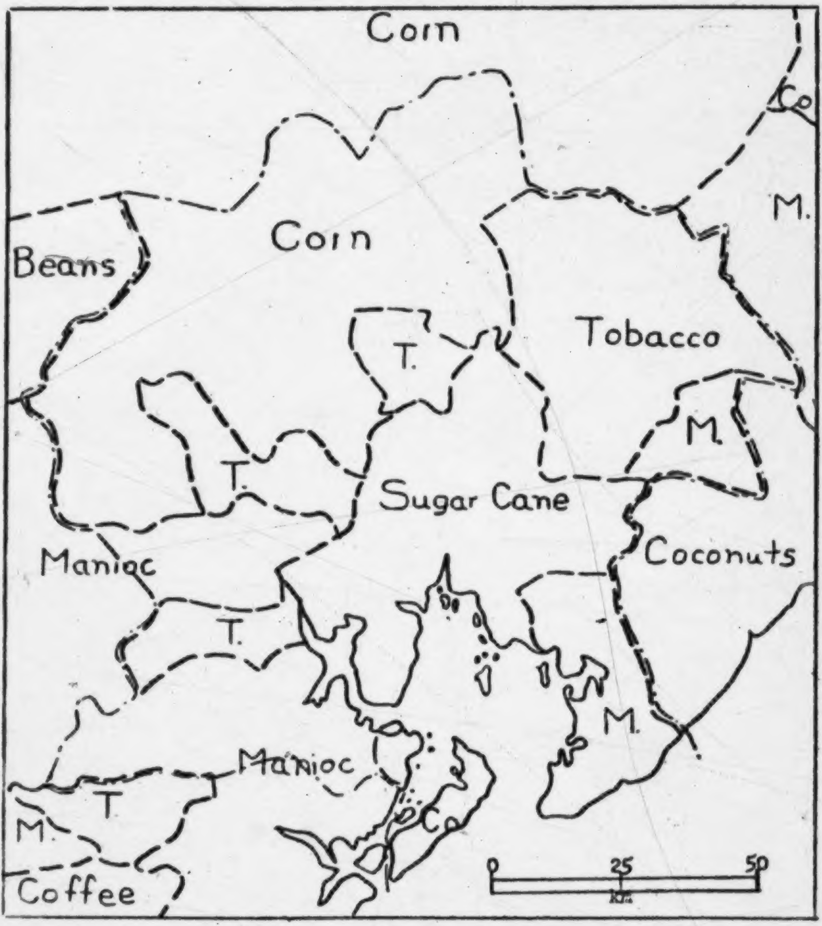
CROP REGIONS AND SYSTEMS

128 The discussion in the preceding sections has emphasized the
241 analysis of the character and distribution of individual crops. As has been suggested, the Recôncavo has several specific crop associations, particularly manioc with tobacco and corn with beans, and several monocultural systems--sugar cane, coconuts, and coffee. The discussion which follows will deal with the crop associations and monocultures as areal and as functional groupings--a first step in the synthetic development of the sub-regional and regional patterns of agriculture in the Recôncavo. Since the *município* tends to be a highly integrated micro-region with a distinctive pattern of crops and cropland, the first level of generalization is this politically delimited local area. The summation of the crop pattern of the local area leads to the determination of the region in which crops are cultivated in isolation or in co-existence and in which co-existent crops are cultivated in interdependent crop systems.

128 *Crop Ranks*. In order to determine the areal importance of the
241 principal crops in relation to each other, the crops of the several
311 *municípios* of the Recôncavo and the adjoining regions were ranked in accordance with the amount of the cropland area which they occupied. The accompanying series of maps, based upon these rankings, reveal that more cropland was devoted to manioc (Map 65) than any other crop
241 in seven *municípios*. Tobacco occupied this position in six *municípios*,
311 sugar cane in four *municípios*, corn in three, and coconuts in one. The relative area devoted to these five most cultivated crops varied from

[TEXT CONTINUED ON PAGE 230]

+102
•241
311


Corn
Co
M.
Corn
Beans
Tobacco
T.
T.
Sugar Cane
M.
Manioc
Coconuts
T.
M.
Manioc
T
Co
M.
Coffee
0
25
50
Km.

RECÔNCAVO OF BAHIA

Crops Ranking First in Area of Cultivation in 1948

M - Manioc
T - Tobacco
Co- Coconuts

MAP 65

96 per cent of the total cropland planted to sugar cane in São Sebastião to 33 per cent of the total cropland occupied by manioc in São Filipe.

At least one-third of the cropland of every *município* of the Recôncavo and the adjoining areas was planted to a single crop, and in twelve *municípios* of the region, over half the total cropland was occupied by one crop. The leading crop of the Eastern, Northern, and Northwestern Recôncavo was either corn or tobacco, that of the Southwestern Recôncavo, either manioc or tobacco. Sugar cane ranked above other crops in the Central Recôncavo. In the Southern Recôncavo either manioc or coconuts occupied the greatest area of cropland.

The percentage of the cultivated land in the crop ranking second in area varied greatly from *município* to *município* (Map 66). In São Sebastião and Pojuca, in the Eastern Recôncavo, the crop which held second position occupied only 2 per cent and 4 per cent of the cropland, respectively. In Crus das Almas the second crop in area occupied 42 per cent of the cultivated land. Manioc was the second crop in area in all *municípios* where tobacco was first except tiny São Félix. In the Northwestern Recôncavo, when corn was the first crop, beans or tobacco occupied the second position.

The pattern of the succeeding ranks shows the effect of specialization in cultivation: in five *municípios* of the Recôncavo and six *municípios* in the adjoining areas, the first two crops occupied 90 per cent or more of the cropland. Only nine Recôncavo and three adjoining *municípios* had a sixth ranking crop which occupied as much as 1 per cent of the total cultivated area, and in no *município* did the sixth crop occupy more than 4 per cent of the total cropland. The patterns of crops occupying third, fourth, fifth, and sixth ranks in area are shown on Maps 67, 68, 69, and 70.

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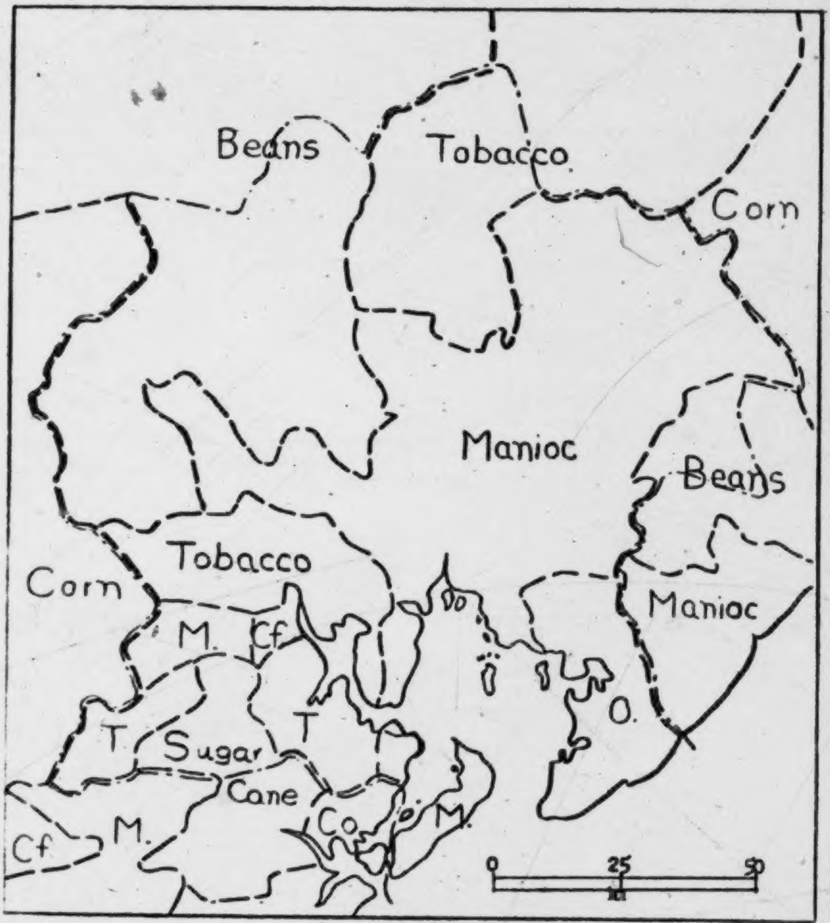
• 241
311


Beans
Tobacco
Corn
Manioc
Beans
Tobacco
Corn
Manioc
M.
Cf
O.
T
Sugar
T
Cane
Cf
M.
Co.
M.
0
25
50
Mi

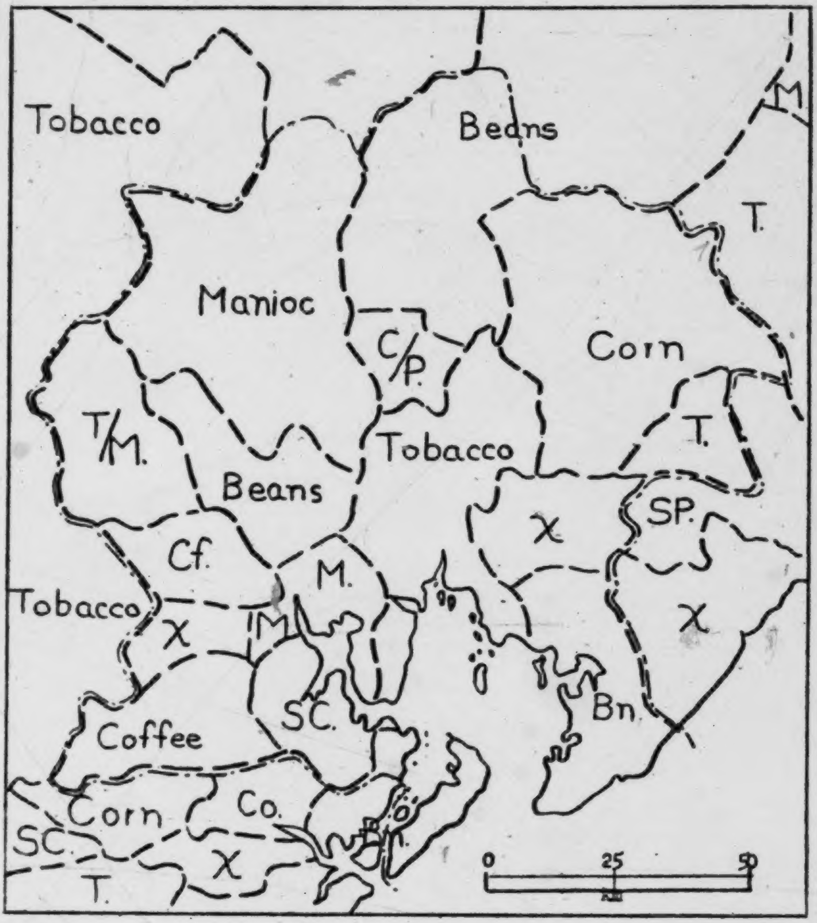
RECÔNCAVO OF BAHIA

Crops Ranking Second in Area of Cultivation in 1948

M - Manioc
T - Tobacco
Co- Coconuts
Cf- Coffee
O - Oranges

MAP 66

*102
• 241
311


Tobacco
Beans
M
T.
Manioc
C/P.
Corn
T/M.
Beans
Tobacco
T.
Cf.
SP.
x
M.
Tobacco
x
M
x
SC.
Bn.
Coffee
Corn
Co.
SC.
x
Bn.
T.
0
25
50
KM

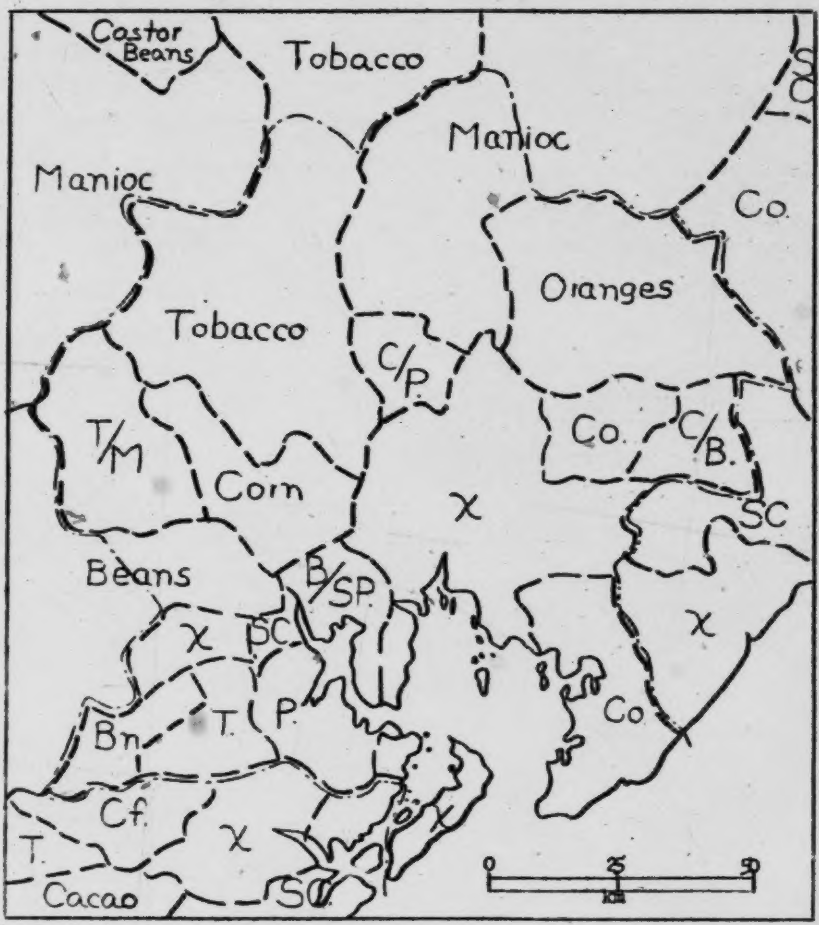
RECÔNCAVO OF BAHIA

Crops Ranking Third in Area of Cultivation in 1948

M - Manioc	SP- Sweet Potatoes
T - Tobacco	C - Corn
Co- Coconuts	A/B-Two crops with same rank
Cf- Coffee	x - No crop of this rank
SC- Sugar Cane	with over 1 o/o of cropland

MAP 67

*102
• 241
311


Castor Beans
Tobacco
S
C
Manioc
Manioc
Co.
Oranges
Tobacco
C/P.
T/M
Corn
x
Co.
C/B.
SC
Beans
B/SP.
x
SC
x
T.
P.
Bn
Co
Cf.
x
T.
Cacao
SC.
0
25
50
km

RECÔNCAVO OF BAHIA

Crops Ranking Fourth in Area of Cultivation in 1948

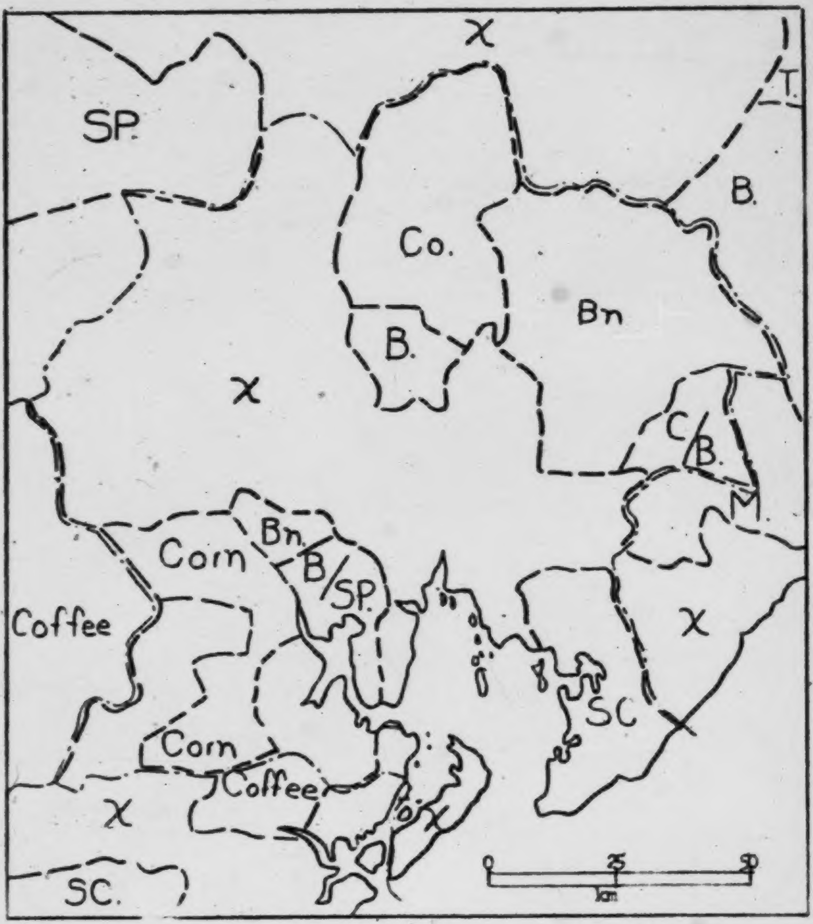
M - Manioc
T - Tobacco
Co- Coconuts
Cf- Coffee

SC- Sugar Cane
C - Corn
B - Beans
P - Peanuts

Bn- Bananas
SP- Sweet Potatoes
A/B-Two crops with same rank
x - No crop of this rank with over 1 o/o of cropland

MAP 68

*102
• 241
311


X
SP.
T.
B.
Co.
Bn
B.
X
C
B.
M.
Bn.
Corn
B/SP.
Coffee
X
SC
Corn
Coffee
X
SC.
0
25
50
km

RECÔNCAVO OF BAHIA

Crops Ranking Fifth in Area of Cultivation in 1948

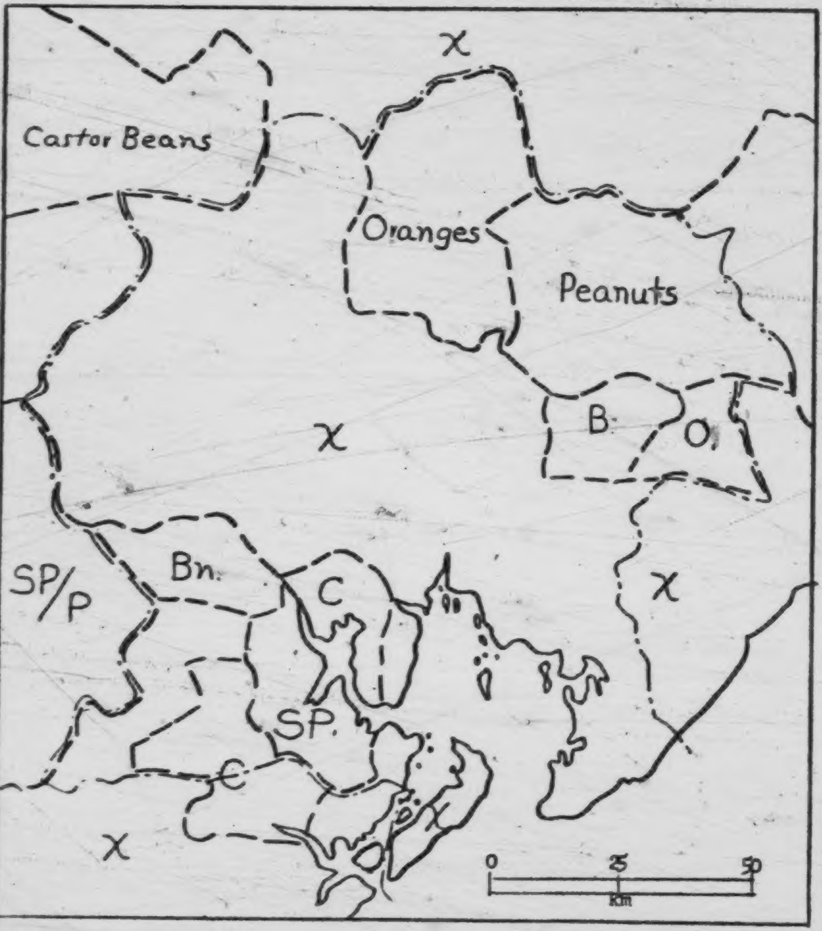
M - Manioc
T - Tobacco
Co- Coconuts
SC- Sugar Cane

C - Corn
B - Beans
Bn- Bananas
SP- Sweet Potatoes

A/B-Two crops with same area
x -No crop of this rank with over 1 o/o of cropland

MAP 69

*102
• 241
311


x
Castor Beans
Oranges
Peanuts
B
O
x
SP/P
Bn.
C
x
SP.
C
x
x
0
25
50
Km

RECÔNCAVO OF BAHIA

Crops Ranking Sixth in Area of Cultivation in 1948

C - Corn
B - Beans
P - Peanuts
Bn- Bananas
SP- Sweet Potatoes
A/B-Two crops with same area
x - No crop of this rank with over 1 o/o of cropland

MAP 70

241 311 In many *municípios* on the north, west, and southwest of the Recôncavo, where corn and beans were the first and second crops, manioc and tobacco were third and fourth or vice versa. On the other hand, sugar cane was rarely a significant crop in any *município* where either corn, beans, tobacco, or manioc occupied a leading position.

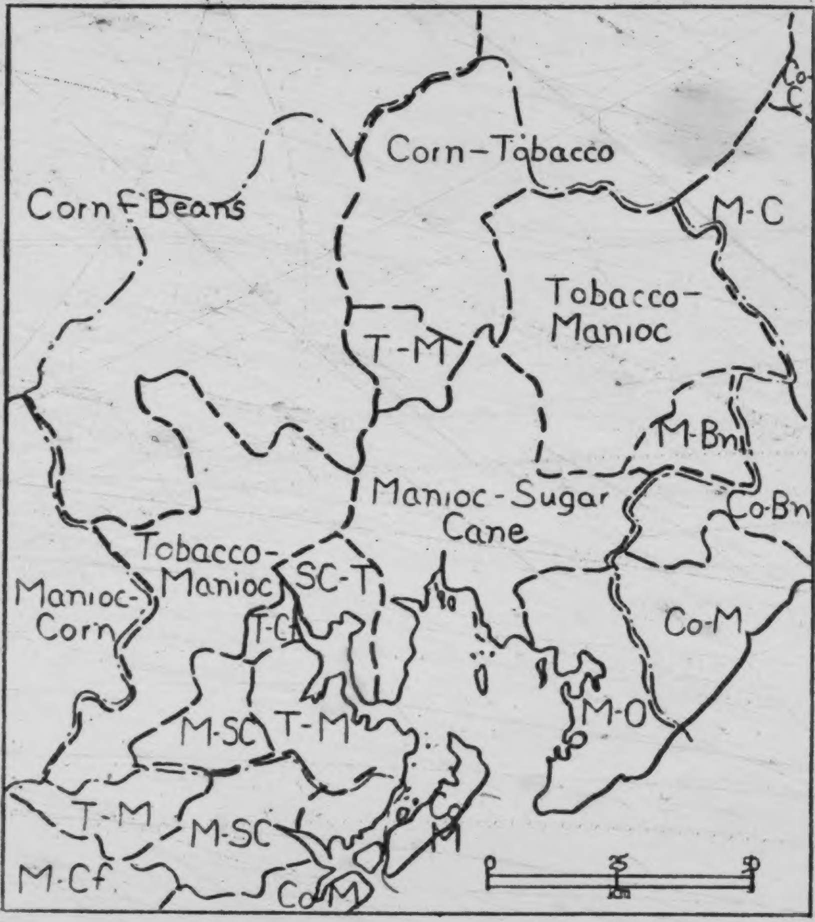
128 241 311 *Crop Combinations and Monocultures*. The crop combinations shown on Map 71 and Map 72 exist on two levels, as statistical combinations of the crops of various *municípios* and as functional associations of crops grown in an interdependent system.

241 311 The statistical crop combinations of the Central Recôncavo do not correspond to functional systems of cultivation, for although sugar cane, manioc, and tobacco are produced within individual *municípios*, the cultivation of sugar cane is entirely separate. The manioc and sugar cane of São Filipe and the tobacco and coffee of São Félix are also cultivated separately. The statistical combinations, therefore, merely summarize the economic specialization and diversification of the *município* economies. The tobacco-manioc and the corn-bean combinations of most *municípios* of the perimeter of the Recôncavo, from Alagoinhas on the northeast to Conceição do Almeida on the southwest, signify functional as well as statistical relationships. On the other hand, monocultural systems dominate within the Central Recôncavo and in a few other places. The areas in which the individual functional combinations and monocultures predominate are delimited as nodal crop regions on Map 73. The arrows on the map (Map 73) indicate the intermeshing of crop regions in the transitional zones.

249 244 311 The most extensive of the crop regions belongs to tobacco and manioc. In this region, which extends from the Southwestern Recôncavo in a long arc to the Eastern Recôncavo, at least 70 per cent and usually

[TEXT CONTINUED ON PAGE 240]

x/102
241
311


Corn-Tobacco
Co-C
Corn & Beans
M-C
Tobacco-Manioc
T-M
M-Bn
Manioc-Sugar Cane
Co-Bn
Tobacco-Manioc
SC-T
Manioc-Corn
T-C
Co-M
M-SC
T-M
M-O
T-M
M-SC
Co M
M-Cf
Co-M
0
25
50
Km

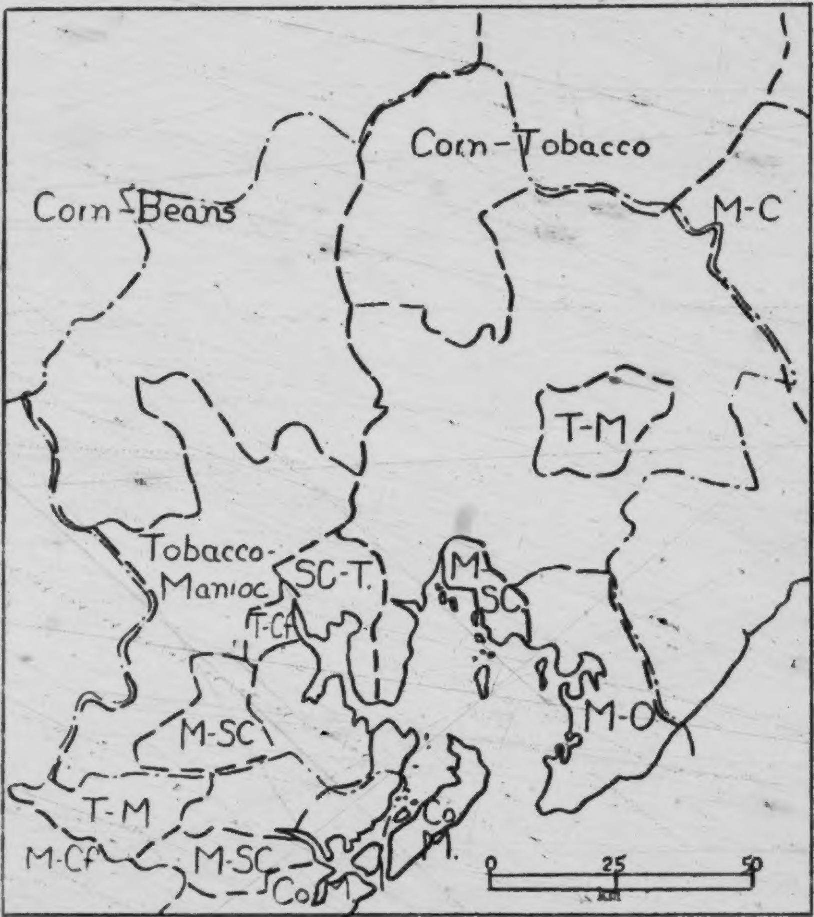
RECÔNCAVO OF BAHIA

Crops Ranking First and Second in Area of Cultivation in 1948

M - Manioc
T - Tobacco
Co- Coconuts
Cf- Coffee
O - Oranges
SC- Sugar Cane
C - Corn
P - Peanuts
Bn- Bananas

MAP 71

*102
• 241
311


Corn-Tobacco
Corn & Beans
M-C
T-M
Tobacco-Manioc
SC-T.
M
SC
T-Cf
M-SC
M-O
T-M
Co
M
M-Cf
M-SC
Co M
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25
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Km

RECÔNCAVO OF BAHIA

Crops Ranking First and Second in Area of Cultivat[illegible] in 1948 Where the Second Crop Occupied Over 20 per cent of the Total Cropland

M - Manioc   Cf- Coffee   O - Oranges
T - Tobacco   SC- Sugar Cane
Co- Coconuts   C - Corn

MAP 72

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• 241
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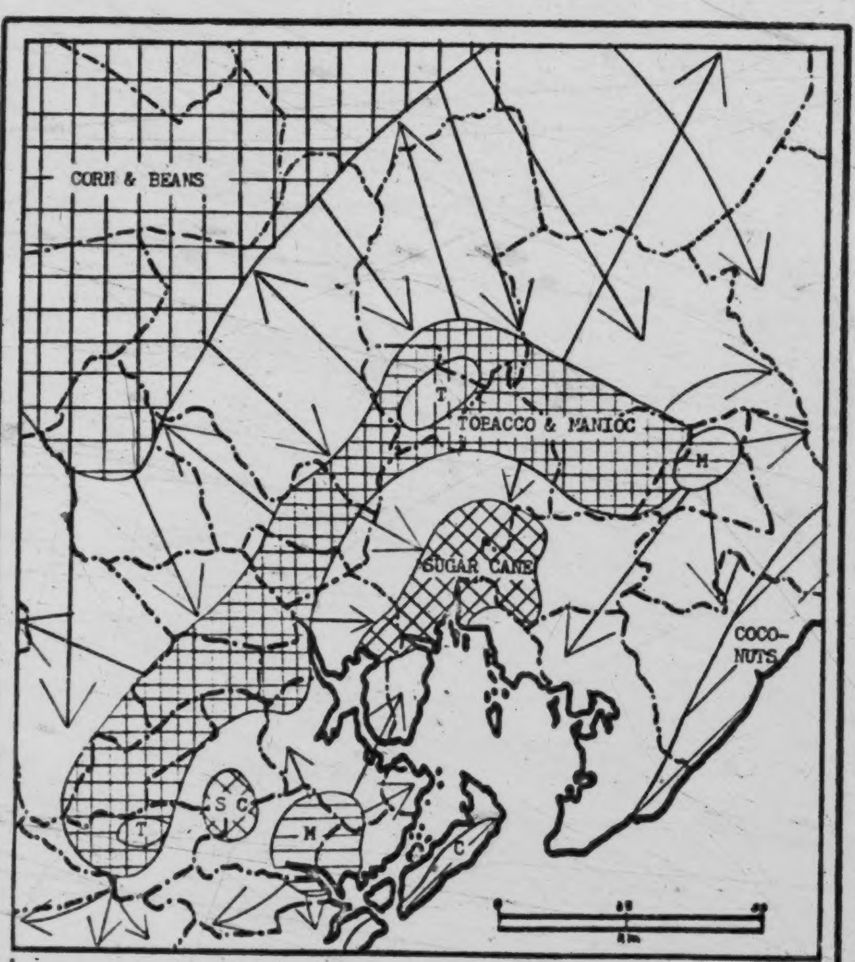
CORN & BEANS
T
TOBACCO & MANIOC
M
SUGAR CANE
COCO-
NUTS
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RECÔNCAVO OF BAHIA

Crop Regions Based upon Area of Cultivation

T - Tobacco
M - Manioc
SC - Sugar Cane
C - Coconuts

MAP 73

249 The portion of the sugar cane region north of the Bay is an area
161 of relatively dense rural population, with a large number of villages
361 and plantation settlements and one city--Santo Amaro. The remaining areas of the sugar cane region have only moderately dense rural populations and no major urban centers, although the _cidade_ of Nazaré is very close to the southern border of São Filipe.

The tremendous historical significance of the sugar cane region has
[128] been discussed at length in the section on the historical setting of the
249 Recôncavo. As far as the sugar cane zone of Santo Amaro, São Francisco,
178 and São Sebastião is concerned, the extent of the region does not appear to have changed very much since colonial times. Old _engenhos_ are found throughout the zone, indicating past cultivation in all areas now in cane. The present _usinas_ cultivate sugar cane intensively clear across the Cretaceous zone, so that it is not likely that the cane area has contracted. However, there are several abandoned _engenhos_ and settlements on the north and east shores of the estuary of the Paraguaçu which seem to indicate that sugar cane cultivation was formerly more extensive around the Bacia do Iguape.

244 The two intensive crop regions of tobacco and manioc and sugar
249 cane, as outlined above, can be viewed as nodal areas which are basic
311 to the regional distinctiveness of the Recôncavo; they are for all practical purposes included totally within its limits; their crop patterns are not duplicated in any nearby area; and they include within their boundaries a very large part--and the most productive part--of its agricultural area.

241 In distinction to the above intra-Recôncavo regions there are
311 at least three crops which overlap the borders of the Recôncavo, forming crop regions which have their most characteristic development in adjoining areas. The Atlantic coast of Salvador and Itaparica supports

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Between these principal crop regions in which the basic functional groupings or monocultures dominate the cropland, there are transitional zones in which the systems intermingle. Between the corn-bean region and the tobacco-manioc region there is a broad zone in which neither crop system dominates—a zone extending from south-central Castro Alves in a vast arc around the Recôncavo to Entre Rios. Within this zone the distribution of corn and beans and tobacco and manioc is general—there may be local specializations based upon such factors as soils and precipitation, transport and market facilities, availability of fertilizer, etc., but any area of distrito size is likely to cultivate all of the four crops. In the northeastern part of this transition zone, in Alagoinhas and Inhambupe, corn and tobacco dominate in their respective combinations. In northern Castro Alves manioc and corn are very strong.

The inner transition zone between the tobacco-manioc region and sugar cane region is narrower and much less a zone of mutual interpenetration. The edges of the cane areas are almost invariably abrupt—scattered, but only widely scattered, cultivation of manioc and tobacco exists in the zone between São Gonçalo-Conceição da Feira and the cane areas in Cachoeira and Santo Amaro.

In the transition zone east of the cane monoculture—in São Francisco and São Sebastião—the crop situation is more confused. Here the relative amount of cultivation in the mata and the agreste is low, and the fields are concealed in the wild vegetation. Moreover, as the capital is approached, a number of diverse crops for the urban market, especially oranges, become important. There is a good deal of subsistence manioc cultivation in the remote areas—small plots cultivated by charcoal burners, fishermen, and marginal people of the urban fringes.

241 311 Southwest of the estuary of the Rio Paraguaçu, in Maragogipe and São Filipe, the crop pattern becomes very complex, as is shown by the relative distribution of cropland in São Filipe:

Manioc	33	per cent
Sugar cane	28	" "
Coffee	25	" "
Tobacco	11	" "
Peanuts	1	" "
Corn	1	" "

Plus small areas of beans, oranges, bananas, sweet potatoes, and coconut.

174 245 249 311 It is very likely that there has been a historical connection between the coffee culture of São Filipe and the main coffee zone far to the southwest. Apparently the development of tobacco cultivation in Santo Antônio has severed this connection.

249 244 221 Cultivation Systems--Tobacco and Manioc. The "ideal" system of cultivation of tobacco and manioc[1] in the tobacco-manioc region has the following general pattern:

(1) In mid-February a small tract, very commonly with an area of one tarefa[2] but sometimes larger, is cleared in the capoeira de caatinga (second-growth scrub-forest) or the capoeira de mata (second-growth littoral forest). [412] Generally the capoeira is low brush, two to five feet tall, which is easily cut with a facão--a long heavy knife which is a universal agricultural tool. Any heavy waste material that can be moved is dragged away from the plot; if there are tree stumps, they will not be grubbed out.[3] Sometimes the waste material on the surface of the field is burned, but this is by no means universal.

(2) A favored spot, either within the cleared field or in the adjoining capoeira, is prepared for a seed bed. Usually a site on the edge of a wood or near a steep slope is selected. Any available waste materials--corn stalks, old tobacco plants, weeds, brush, pieces of wood, and the like--are piled on the small plot, allowed to dry, and then burned.

249 [276] removed by drying or by fermentation, and the leaves are very bitter.

(6) There is a constant but generally ineffective struggle [136] against insects which damage the tobacco crop. The most serious pest is the ant, which not only cuts the leaves but which also covers whole plants with extensive mounds. A number of plant diseases are common in the Recôncavo--their general effect is to reduce quality rather than to destroy the crop. The effects of plant diseases generally are masked by the much greater damage which occurs in cultivation and processing.

241 (7) The practices of land clearing, soil preparation, planting, harvesting, and curing, discussed above, are more highly standardized than is the sequence of land use. The "ideal" land use sequence is more characteristic of the zone of tobacco and manioc south of the Rio Paraguaçu--the Southwestern Recôncavo--than north of it. This land use sequence has been used as a standard of comparison because it is practiced where the highest quality of tobacco is grown and because it was the most commonly observed practice in most other parts of the tobacco-manioc region. However, even in this southwestern area, departures from the "ideal" sequence are relatively common--the introduction of corn and/or beans between tobacco and manioc is especially important. The sequence which is followed after tobacco cultivation depends not only upon the relative price of farinha de mandioca, corn, and beans, but also on the amount of fertilizer applied to the tobacco plot the previous year. Moreover, the chosen sequence will depend upon the original quality of the soil. In Cruz das Almas, at least, corn and beans were not planted in the old tobacco field unless the cultivator felt assured that the fertility was reasonably certain. If substantial risks were involved, manioc was planted.[6]

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311 North of the Paraguaçu, modification of the "ideal" system is more frequent, especially in municípios where the area in cultivation is relatively small. In Coração de Maria, for example, only 4 per cent of the area was cultivated in 1948. Here it is possible to open more "new" land upon which tall capoêira has developed. Since this município is remote--but more in terms of road transport than in actual distance--there is greater need to produce a high-value, low-bulk crop, such as tobacco, and less possibility for the commercial production of manioc. Many fields of tobacco are allowed to revert directly into capoêira. Since the land is more thoroughly fallowed and since there are fewer cattle and thus less manure, fertilization is generally less extensive in this area. A similarly modified pattern of cultivation is found in Catu and in the more remote parts of São Gonçalo.

In Santo Antônio, where the intensity of agriculture is increasing, but where the cultivated area is still relatively small, much "new" land can be used. In this município the area in tobacco is [249] large in relation to manioc, and thus some tobacco fields obviously revert directly to brush.

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244 There seems to be no definite land rotation period in the tobacco-manioc region. Rather the period is controlled by the availability of land. In 1948, the município of Cruz das Almas, one of the most intensively cultivated areas of the tobacco-manioc region, had one half of its total surface in cultivation according to the official data. Approximately one-quarter of the total area was in each of the two crops. Under these circumstances, no more than two years of fallow can have intervened between the harvesting of manioc and the planting of tobacco. However, not all of the município can be cultivated, and certainly no more than three-fourths of the total area can be used for tobacco. It follows that in many cases no more than

245 [311] Most coconuts are grown on moderate-sized plantations along the beaches, in sands, or occasionally in sandy loams. North of Salvador they are grown on dunes and beaches and, back from the sea, in sandy stream valleys where the supply of ground water is generous. There seems to be little selection in choosing coconuts for reproduction. Usually the nuts are planted eight meters or so apart, with a pile of organic trash over and around the nut to provide some additional fertility and to hold the moisture necessary for germination. The sprout must be protected from foraging animals, but once growth is well started, the tree receives little attention and no fertilization.

[433] Yields are moderate to low, from 15 to 40 per tree. Apparently the yields per tree are substantially higher (double) in the Bay area--Itaparica and Camassari--than in the area farther north--Mata de São João and Esplanada. [443] In the Bay area the nuts are usually sold in the markets of Salvador without processing.

241 178 Conclusion. The basic determinant of cultivation practices in the Recôncavo is custom. This is probably less true of the cultivation of sugar than of other crops, but the weight of tradition is heavy upon all agricultural enterprises. [454] It may be said that many relatively primitive agricultural practices survive because of ignorance of newer techniques and because of a lack of capital for investment in new tools, in machinery, in better seed, and in permanent land improvement. The importance of these factors in limiting change in Recôncavo agriculture, particularly as general factors operating indirectly upon individual cultivators and individual farms is not to be denied.

However, when the individual cultivator--sugar planter or tobacco share-cropper--is given an opportunity, in the form of new techniques and the necessary capital, to change and improve his operations and

88 241 178 increase his production and he rejects these opportunities, it is clear that strong non-economic forces are operating directly upon the individual. These forces are the rigid agricultural and social traditions of the Recôncavo society, which are given particular rigidity by the explicit conservatism of the Recôncavo. These traditions are given 88 241 571 178 particular force by the strongly personal character of social and economic relationships in the Recôncavo. The relationship of the share-cropper with the landlord, of the buyer of tobacco with the seller, of the cane field worker with the foreman or usina manager, of the cidade store keeper or agent with the banker or dealer in the capital, are all strongly personal and generally of long standing. Under these circumstances any adventurism by one individual will bring him, if he is in a subordinate position, under the pressure of the traditional bias of those above. If he is in a superior position, any adventurism on his part will bring him not only the criticism of all his colleagues but the personally expressed resistance of his dependents. To the present at least, the vested interest of Recôncavo culture in the fixity of its agricultural systems has successfully resisted major change.

8 88 241 The system of monocultural agriculture, represented in the Recôncavo by sugar cane cultivation, is a traditional element in Brazilian agriculture. Not only sugar cane, but also cacao, coffee, and many other commercial crops are grown in Brazil as monocultures. Specifically, sugar cane monocultures are found in Pernambuco and the other states of the Northeast, in Rio de Janeiro, in Minas Gerais, and in São Paulo.

However, in Brazil as in the Recôncavo, monoculture is being superseded by diversified cultivation. "Too much has . . . been made of the misleading statement that Brazil is a 'one-crop' country," Wythe has said.[7] In the center and south of the country, growing

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urban populations have led to diversification of agriculture. In the Recôncavo the trend toward diversification is still rudimentary; there are rarely more than two important crops cultivated in any one area. The specific extent to which the corn-bean and tobacco-manioc systems of the Recôncavo are found in other parts of Brazil is not clear. Corn and beans are grown in almost all parts of Brazil, but the extent of the system of joint cultivation is not apparent. During travels across the sertão of Bahia and across Alagoas, both separate and joint cultivation were frequently observed. In the northeastern interior, tobacco grown for fumo em corda is frequently succeeded in the field by manioc, but the tobacco and manioc system of the Recôncavo apparently is not duplicated in any other area of Brazil. In Rio Grande do Sul tobacco apparently is produced as a monoculture in a very restricted area. However, the practice of land rotation, involving crops other than the tobacco and manioc of the Recôncavo, is the most widespread of the Brazilian systems of cultivation.

BB 231 438 Feira de Santana. From "Feira" the livestock are distributed to the Recôncavo to be used as beasts of burden, as food, or for both.

BB 231 [433] The livestock population of the Recôncavo, as well as the livestock market, is centralized within the *município* of Feira de Santana. In part this concentration reflects the relatively great demand for beef in Salvador, so that at any one time the number of livestock passing through Feira de Santana must be great. The same concentration is evident for work animals. This suggests that the mortality of work animals in the Recôncavo must be very high. There is no data to substantiate this hypothesis, but the emaciated appearance, poor diet, and calloused treatment of beasts of burden in the Recôncavo suggest that it is highly probable.

BB 231 241 433 The concentrations of livestock in the sugar cane and tobacco-manioc regions contribute significantly to the general agricultural importance of these areas. The differences in the character of the livestock populations reflect in a large measure the different requirements of the crop cultivation systems of the two regions.

B 231 241 The interdependence of the livestock-producing *sertão* and the areas of cultivation, signalized by the cattle fairs, is a characteristic feature of Brazilian agricultural life. The interior, from Ceará to Rio Grande do Sul, is a reservoir from which are drawn the cattle and the work animals for the main centers of crop cultivation and for the cities.

CHAPTER VIII

AGRICULTURAL PROPERTIES

241 231 423 311 The agricultural properties of the Recôncavo are diverse in functional type, tenure, and size. In most municípios there are to be found three basic production types: crop cultivation units, mixed crop cultivation and livestock producing units, and ranches. The properties of any local area may be owner or administrator operated, rented, or, in some areas, occupied informally by "squatters." In distinction to most agricultural areas of the United States, the Recôncavo has a very large number of extremely small agricultural properties, frequently with less than 2 hectares. There are also a number of large properties with more than 10,000 hectares; and in many areas large and small properties are closely intermixed.

241 423 184 Despite the widespread diversity of agricultural properties, there are distinct regional patterns which are based upon the predominance of certain types and sizes of properties and upon characteristic modes of possession. The regional patterns of agricultural properties correspond in a general manner to the crop regions delineated in the previous discussion.

241 423 [127] The basic source of information about the agricultural properties of the Recôncavo is the 1940 economic census.[1] No more recent source is as yet available to replace or to verify or correct these fifteen year old data. However, generalizations based upon these data were substantiated in most cases by the field investigations undertaken for the [178] present study. It is apparent that in so traditional a region as the Recôncavo, the institutional characteristics of agriculture, property types included, change very slowly.

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Of the 12,500 square kilometers of the Recôncavo, only about 800,000 hectares were enumerated in the agricultural section of the 1940 economic census--71 per cent of the total land area. In the various municípios of the region, the enumerated area varied from 39 per cent of the land surface in Alagoinhas to 110 per cent in Itaparica (Map 87). In a few cases, such as Itaparica, the area given in the agricultural section of the census exceeded the official total area of the município.[2] Where the political boundaries were not delimited precisely, properties may have been credited to the wrong município. More probably, however, these situations result from the over-estimation of the areas of individual properties--precise surveys of agricultural properties are virtually unknown.

There was a general correspondence between the intensity of land use (Map 2) and the relative area included in the 1940 agricultural census. This latter area will be referred to as "enumerated area" in the following discussion. Those lands not included in the agricultural census were urban areas, public domain, or in a few cases, private land held for speculation. However, not all of the unenumerated land was unused from the agricultural point of view, for in some of the less densely settled areas "squatters" are quite common.

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Production Types of Agricultural Enterprises. In the 1940 census the agricultural properties of Brazil were divided into six classes, based in part upon the type of production and in part upon the scale of operation. The three main functional types were agricultura (crop cultivation), agro-pecuária (crop cultivation with livestock production), and pecuária (livestock production). In this context it is important to note that while agro-pecuária may include mixed agriculture--in the sense of functionally interdependent crop and livestock production

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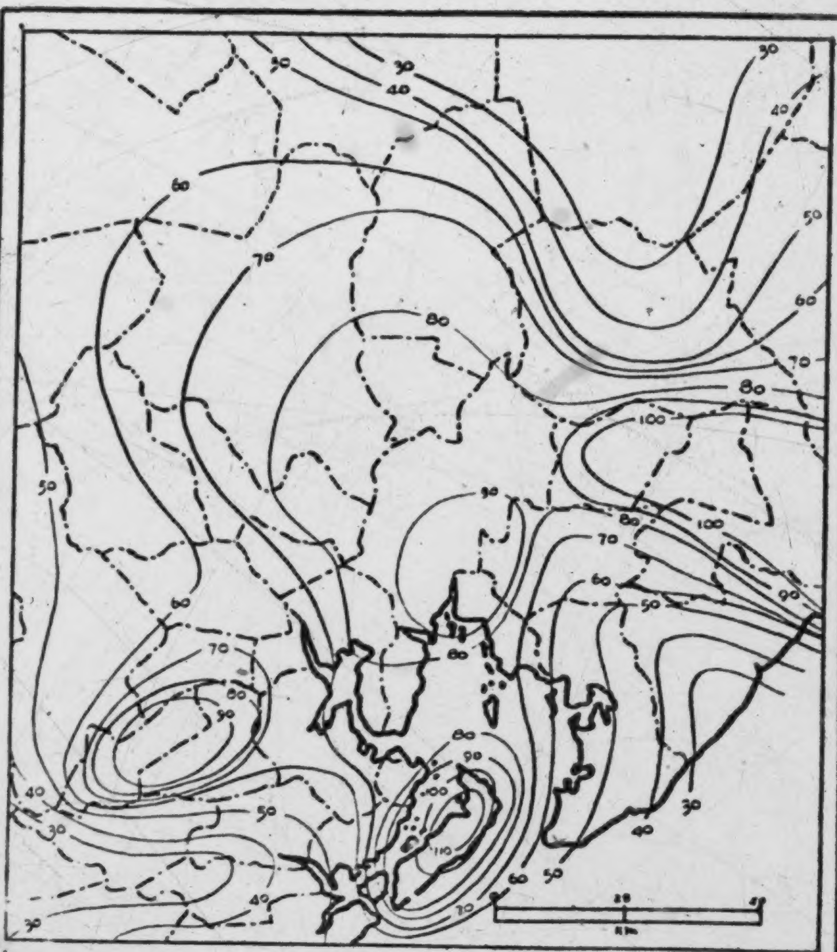
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RECÔNCAVO OF BAHIA

Per cent of the Total Land Area Enumerated

in the 1940 Agricultural Census

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 87

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311 within the individual agricultural unit--properties classifed within the group may have merely co-existing crop and animal production. In the Recôncavo, cultivation and animal husbandry are carried on separately within the individual properties, except (1) where labor animals are involved, or (2) where manure for tobacco cultivation is produced on a tobacco-growing farm. Each of the three main production types was classified as either a large-scale or a small-scale unit, on the basis of the amount of cropland, the number of animals, or both.[3] The distribution of the 27,513 agricultural properties and the 837,699 hectares of enumerated land of the Recôncavo among the various production and scale-of-operation classes is shown on the accompanying table (Table XIV).

Most of the agricultural properties of the Recôncavo were small-scale units which were engaged solely in crop cultivation or which produced both crops and livestock. Ninety-nine per cent of all properties, encompassing 58 per cent of the farmland, were small-scale units. The number of cultivation and of mixed cultivation-livestock units was approximately the same; the mixed units were, on the average, more than twice as large as the exclusively crop producing units. Although the number of purely livestock producing units--ranches--was small, the total area which they encompassed was relatively large, and the mean size of individual units was over 450 hectares. Even more notable is the fact that less than 250 large-scale livestock units, about 1 per cent of the total number of units, held 13 per cent of the land in agricultural properties.

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233 Livestock Units. Agricultural enterprises whose activities were confined exclusively to livestock production were found in every município of the Recôncavo and in every adjoining município in 1940. In most areas, however, the number of such livestock units was very

[TEXT CONTINUED ON PAGE 294]

TABLE XIV

AGRICULTURAL PROPERTIES OF THE RECÔNCAVO--CLASSIFIED BY TYPE AND SCALE OF OPERATION--1940

	Crop Cultivation Only	Crop Cultivation and Livestock Production	Livestock Production Only	All Types
		Number and Area of Properties		
All Properties:				
Number	13,221	13,587	705	27,513
Area*	212,545 ha.	493,210 ha.	131,944 ha.	837,699 ha.
Mean Size	16 ha.	36 ha.	187 ha.	30 ha.
Small-Scale Properties:				
Number	13,144	13,558	458	27,160
Area	167,406 ha.	298,408 ha.	26,932 ha.	483,746 ha.
Mean Size	13 ha.	21 ha.	59 ha.	18 ha.
Large-Scale Properties:				
Number	77 ha.	29 ha.	247 ha.	353 ha.
Area	28,703 ha.	12,649 ha.	107,199 ha.	148,551 ha.
Mean Size	373 ha.	436 ha.	434 ha.	421 ha.
		As Per cent of the Number and Area of all Properties		
All Properties:				
Number	48	49	3	100
Area	25	59	16	100
Small-Scale Properties:				
Number	48	49	2	99
Area	20	35	3	58
Large-Scale Properties:				
Number	-	-	1	1
Area	3	1	13	18

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*Because the census does not give data on the size of some units in order to preserve the anonymity of the information, the totals do not precisely equal the sums of the various components.

Source: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

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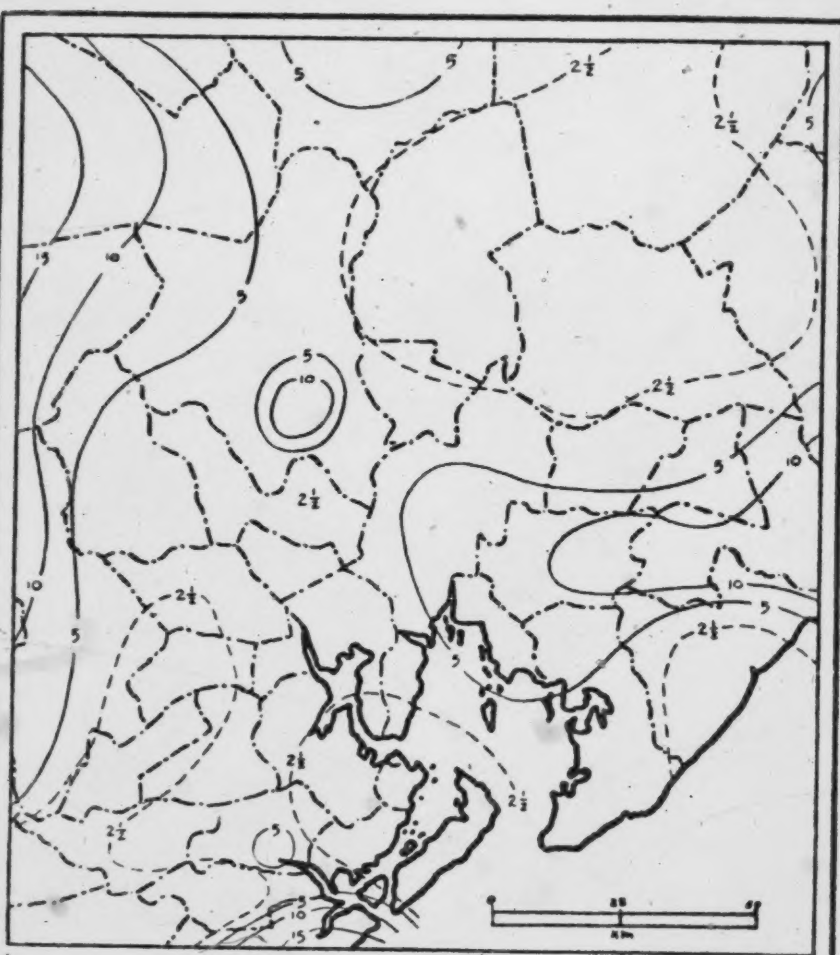

RECÔNCAVO OF BAHIA

Per cent of All Agricultural Enterprises Which Were Livestock Enterprises--1940

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 88

231 233 433 [313] [249] and locomotives of the cane area, but, as has been pointed out previously, they have supplementary livestock production.[4]

231 233 311 433 Of the 247 large-scale livestock units in the Reconcavo, 65, with a total area of almost 30,000 hectares, were in the município of Feira de Santana (Maps 92 and 93). Another 39, with about 16,000 hectares of land, were in the Central Recôncavo. Each of these two areas has a distinctive character: the Central Recôncavo fazendas de gado--cattle ranches--supply oxen and horses, asses, and mules to the sugar economy; the large fazendas of Feira de Santana, with extensive grassy pastures, serve the campo de gado--cattle market--of the cidade and thereby the whole economy of the Recôncavo.

231 241 311 184 Crop Cultivation Units. Almost one-half of all farms in the Recôncavo produced no animals in 1940. In the marginal areas of the region, excepting always the southwest, less than one-third of the farms were pure crop cultivation units (Map 94). On the other hand, crop farms were particularly numerous on the southern littoral, where the forests are not salutary to livestock--except swine and fighting cocks. The Northern Recôncavo, where ranching is not an important activity, had a relatively large number of crop cultivation units, as had Salvador and the adjoining coastal município, Camassari.

241 311 Relative to both the enumerated and the total area, the purely crop cultivation units were very important in Itaparica and Santo Amaro and unimportant around the border zone of the Recôncavo (Maps 95 and 96). On Itaparica and in the sugar cane region, crop cultivation units occupied over one-half the total land area--over 85 per cent on the island of Itaparica. The size of crop cultivation properties in the Recôncavo was generally small, but there were very great local differences

000 (Map 97). The tobacco-manioc region, especially in the Southwestern

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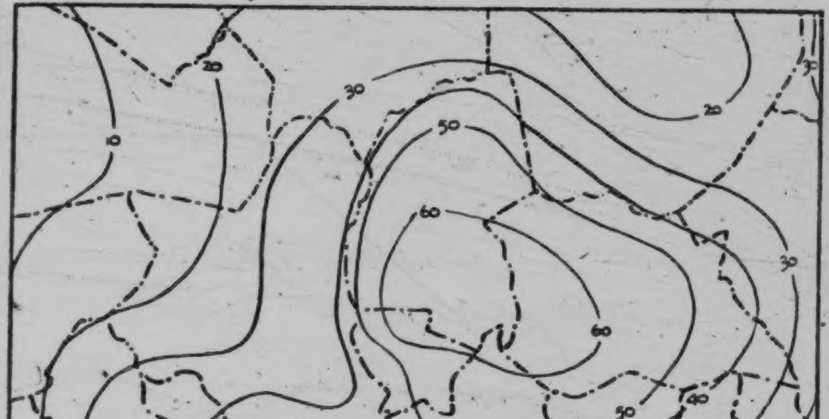
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RECÔNCAVO OF BAHIA

Per cent of All Agricultural Enterprises Which Were Crop Cultivation Enterprises--1940

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 94

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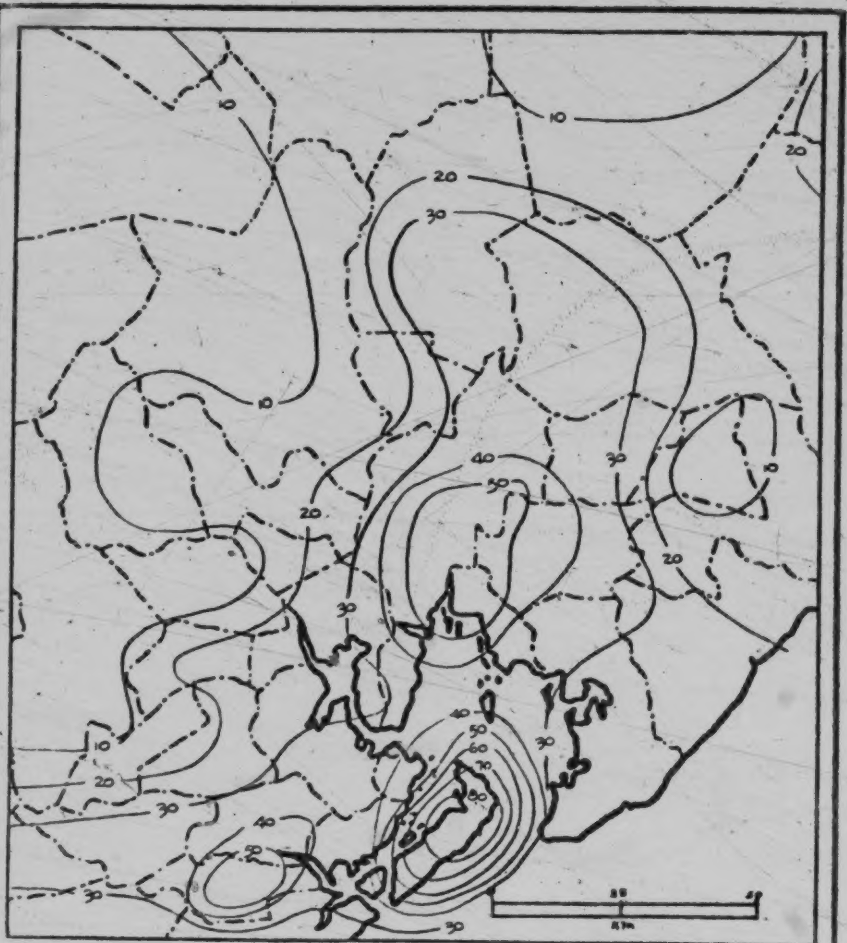
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RECONCAVO OF BAHIA

Per cent of the Enumerated Area in

Crop Cultivation Enterprises--1940

Source of data: *Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.*

MAP 95

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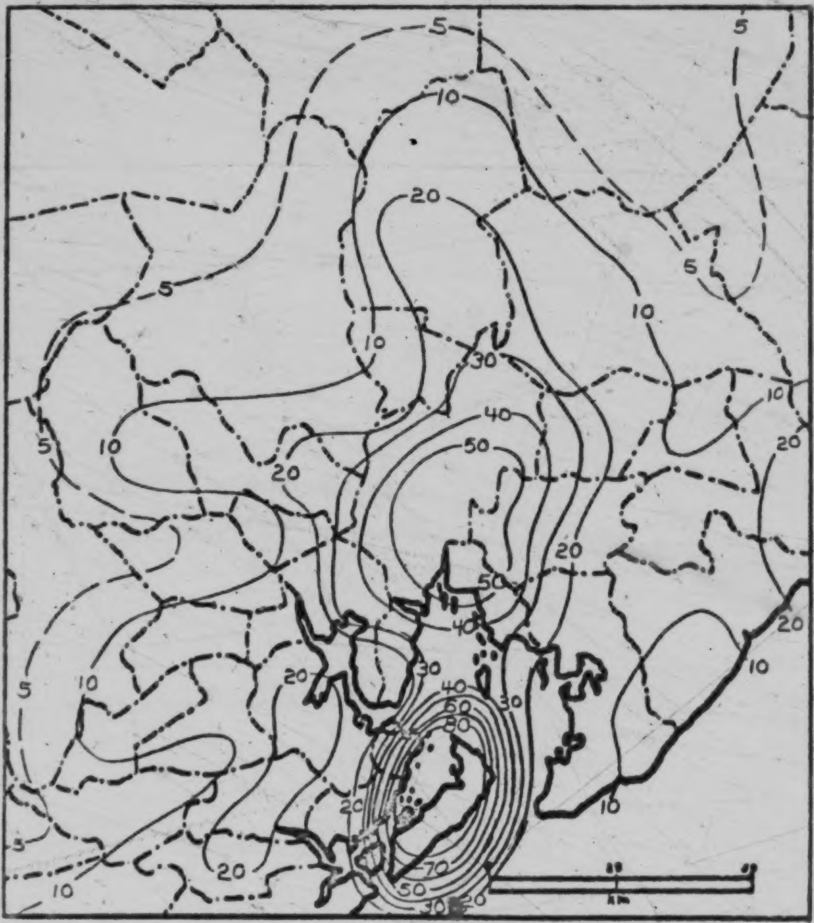
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RECÔNCAVO OF BAHIA

Per cent of the Total Land Area in

Crop Cultivation Enterprises--1940

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 96

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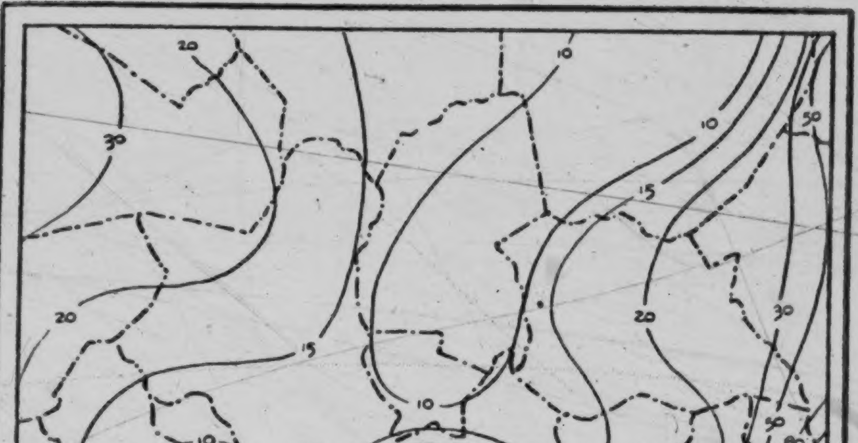
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RECÔNCAVO OF BAHIA

Mean Size of Crop Cultivation Enterprises—1940

In Hectares

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 97

249 The tobacco-manioc region, especially in the Southwestern
244 Recôncavo, was a zone of very small properties--in Cruz das Almas and
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423 Coração de Maria the mean size of crop cultivation units was 9 hectares, while in São Filipe it was only 5 hectares. This zone of small crop cultivation units is part of a belt, parallel to but well back from the coast, which originates in the *serras* of the coffee zone, crosses the Recôncavo along the *caatinga-mata* transition, and follows the *caatinga-agreste* boundary northward along the eastern edge of the Tertiary *taboleiros*. The small-property belt thus lies between the littoral, with its large plantations of sugar cane and its ranches, and the dry *sertão*, with its extensive livestock economy.

241 The Central Recôncavo was a zone of large crop cultivation proper-
249 ties, primarily sugar cane plantations. Although there are a large
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423 number of livestock in the sugar cane region, the plantations use, rather than produce, animals and were thus classified as crop cultivation units. The plantations of the sugar cane area are very diverse as regards size, and many of the individual properties are now operated collectively by large *usinas*. Nevertheless, there are still a number of small properties, producing cane which is sold to the large mills.

241 *Mixed Crop Cultivation-Livestock Producing Units*. A little over
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233 one-half of all the farms in the Recôncavo produced livestock as well
311 as crops. These units occupied almost 60 per cent of the total area of all properties. However, the area in which over half the properties were mixed units was limited to a broad perimeter zone which included all the outer *municípios* of the Eastern, Northwestern, and Southwestern Recôncavo (Map 98). In Itaparica and Santo Amaro, where crop cultivation units were very important, there were relatively few mixed units.

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249 The maps of the area in mixed units in relation to enumerated
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233 area (Map 99) and total area (Map 100) confirm the observation that

[TEXT CONTINUED ON PAGE 311]

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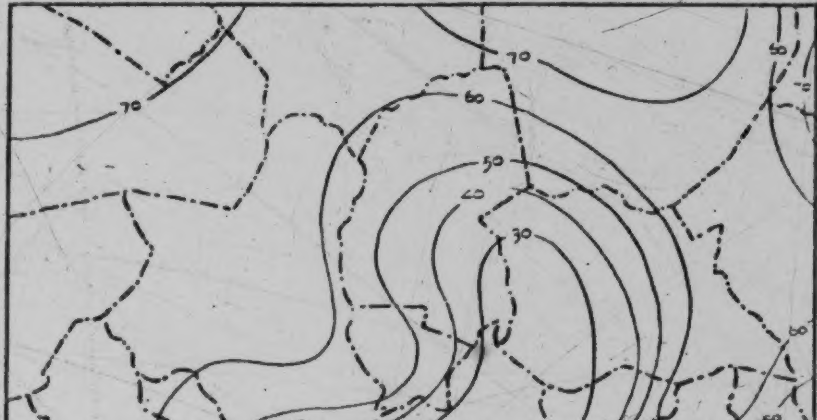
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RECÔNCAVO OF BAHIA

Per cent of All Agricultural Enterprises Which Were Crop-Livestock Enterprises--1940

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 98

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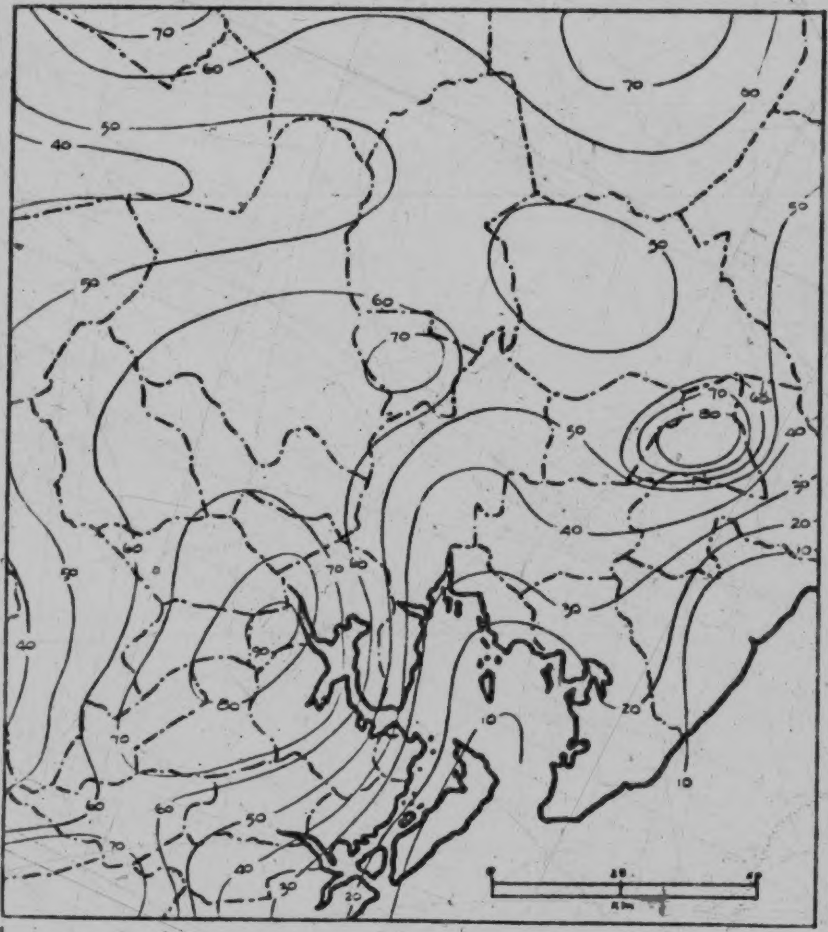
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Km

RECÔNCAVO OF BAHIA

Per cent of the Enumerated Area in

Crop-Livestock Enterprises--1940

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 99

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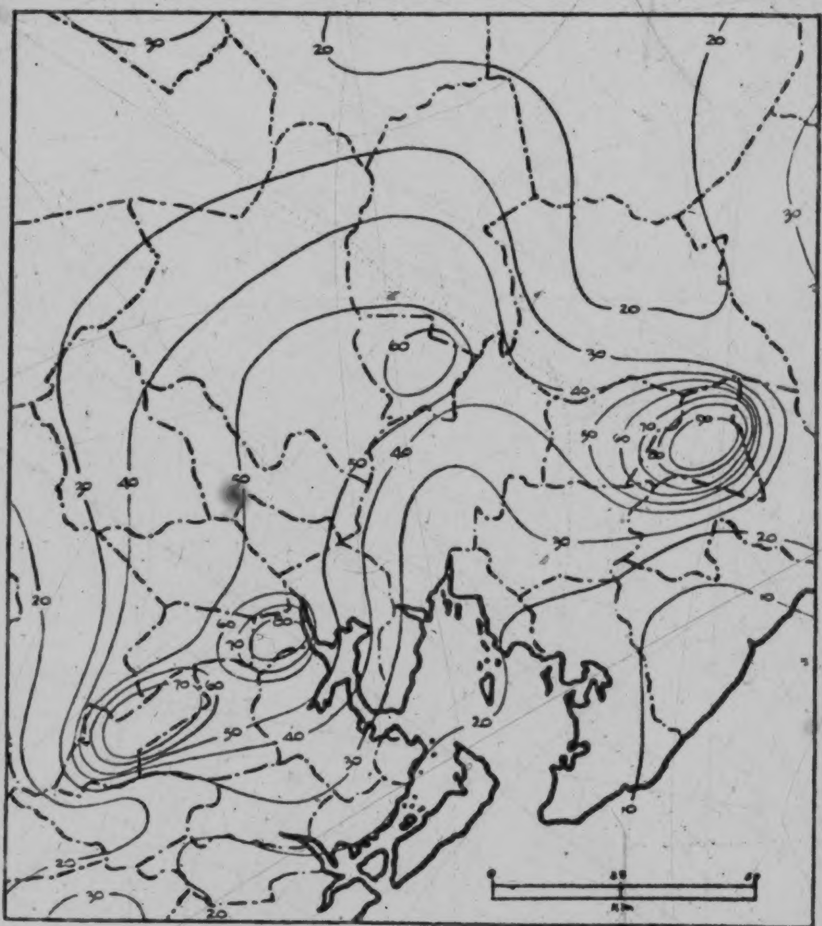
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RECÔNCAVO OF BAHIA

Per cent of the Total Land Area in

Crop-Livestock Enterprises--1940

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 100

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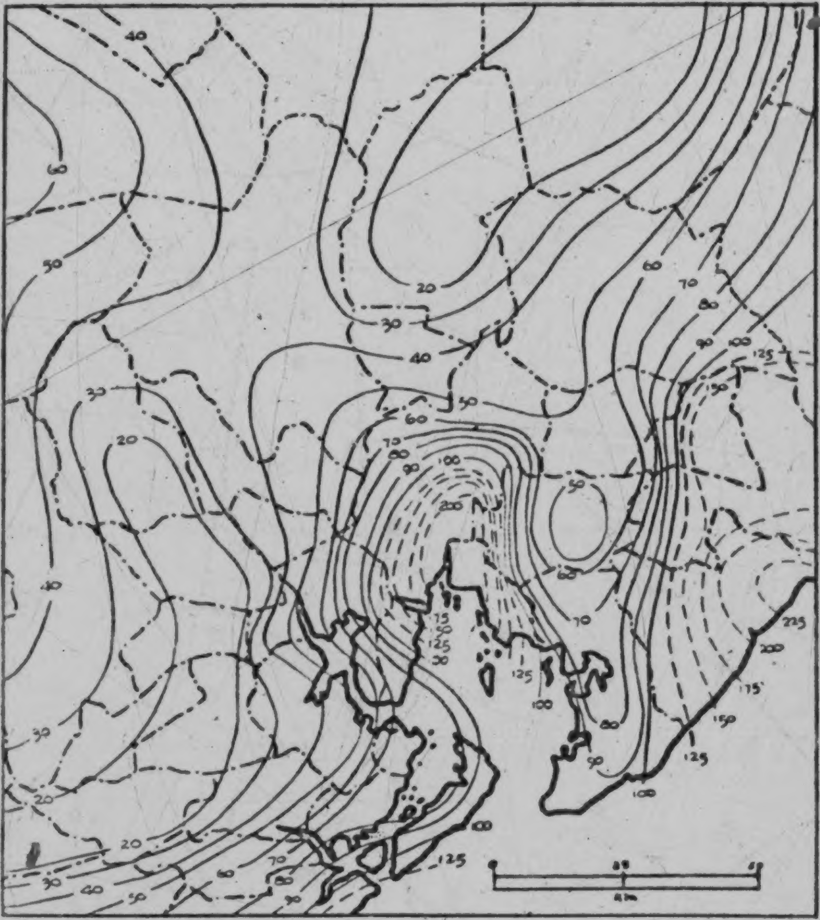
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RECÔNCAVO OF BAHIA

Mean Size of Crop-Livestock Enterprises—1940

In Hectares

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 101

244 249 the tobacco-manioc region is an area of co-existing crop and livestock
231 production. The mean size of mixed units of both the tobacco-manioc
233 region and the western and northern perimeter of the Recôncavo was
[423] small—20 to 40 hectares—but was significantly larger than the mean
[311] size of crop farms in the same areas (Map 101). Like the purely cane-producing plantations, the mixed units of the Central Recôncavo were relatively large.

241 Crop Cultivation and Mixed Crop Cultivation and Livestock Pro-
231 232 ducing Units Combined. The distribution of the area in crop and crop-
311 livestock units combined, as shown on Maps 102 and 103, reaffirms the regional distinctiveness of the Recôncavo. In almost the entire region over one-half the total area was in these two types of crop-producing properties. None of the adjoining municípios had as much as 50 per cent of their total area in these two types of units, and in all but three, less than one-third the land was in crop or crop-livestock properties.

241 Regional Pattern of Agricultural Properties. The distribution
311 of the three major production units is summarized on Map 104. In each
184 of the two basic regions—crop and crop-livestock—one production
[231] type dominated, in number and in area, over the others. The Central
[233] Recôncavo with the island of Itaparica and, beyond the Recôncavo, the environs of Nazaré composed a region in which most of the agricultural land was in crop cultivation units. North of the Bay, most of these crop cultivation units were sugar cane plantations. On Itaparica there were several kinds of crop cultivation units—coconut plantations, diminutive manioc farms, and across from Salvador, small summer estates with a few cultivated fields. Around Nazaré most of the crop cultivation properties appeared to specialize in the production of manioc.

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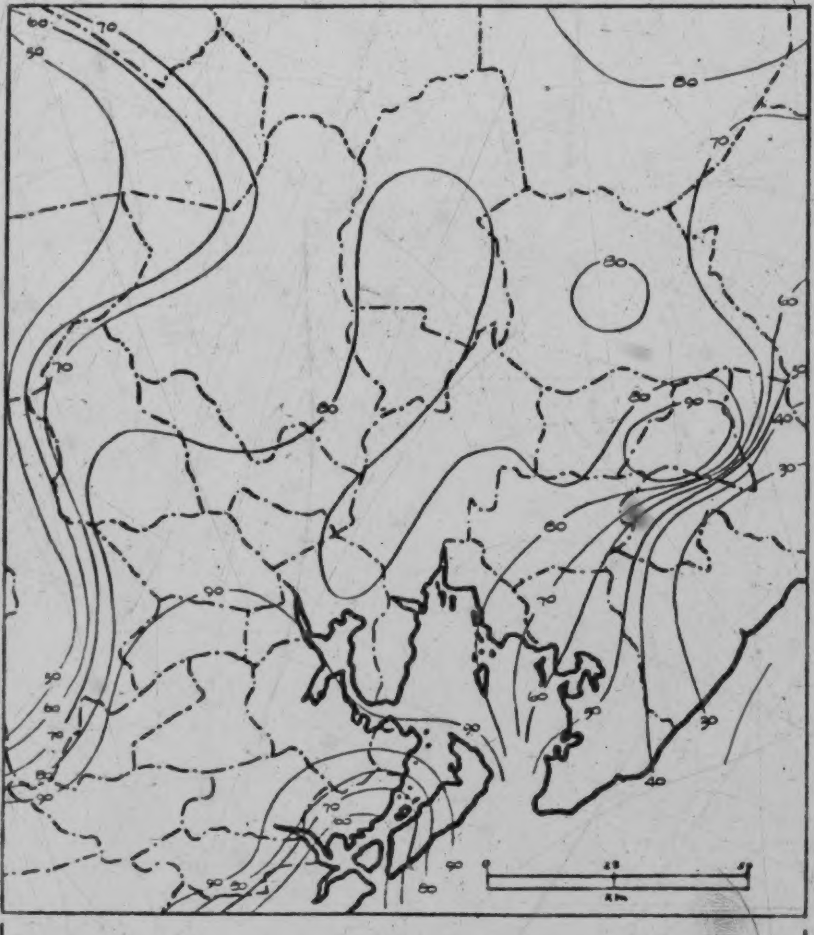
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RECÔNCAVO OF BAHIA

Per cent of the Enumerated Area in

Crop Cultivation and Crop-Livestock Enterprises—1940

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 102

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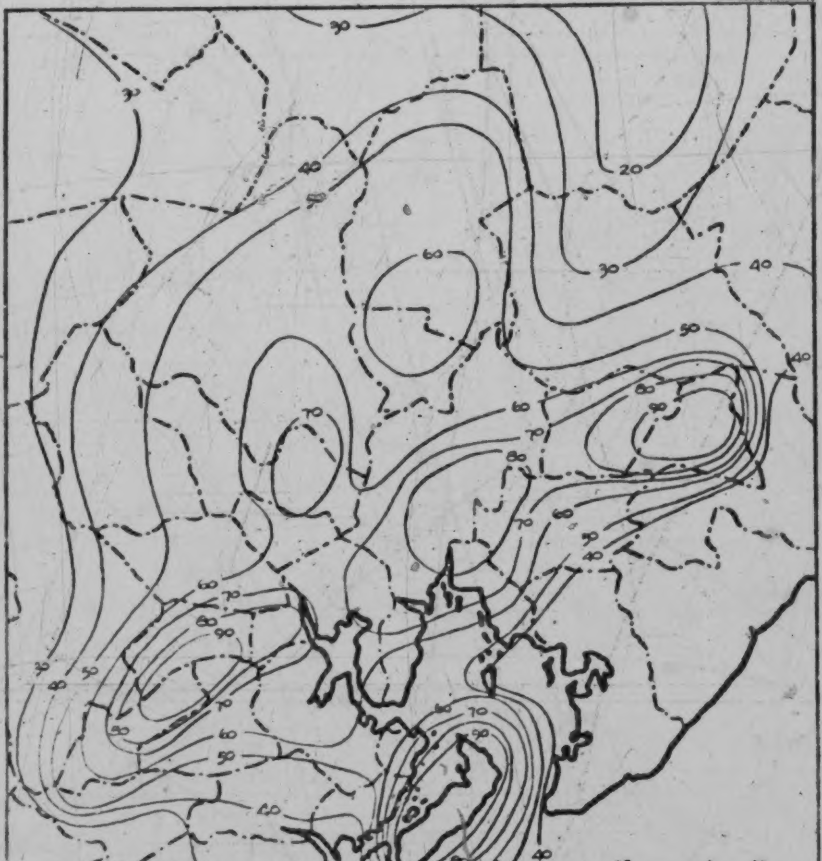

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RECÔNCAVO OF BAHIA

Per cent of the Total Land Area in

Crop Cultivation and Crop-Livestock Enterprises--1940

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 103

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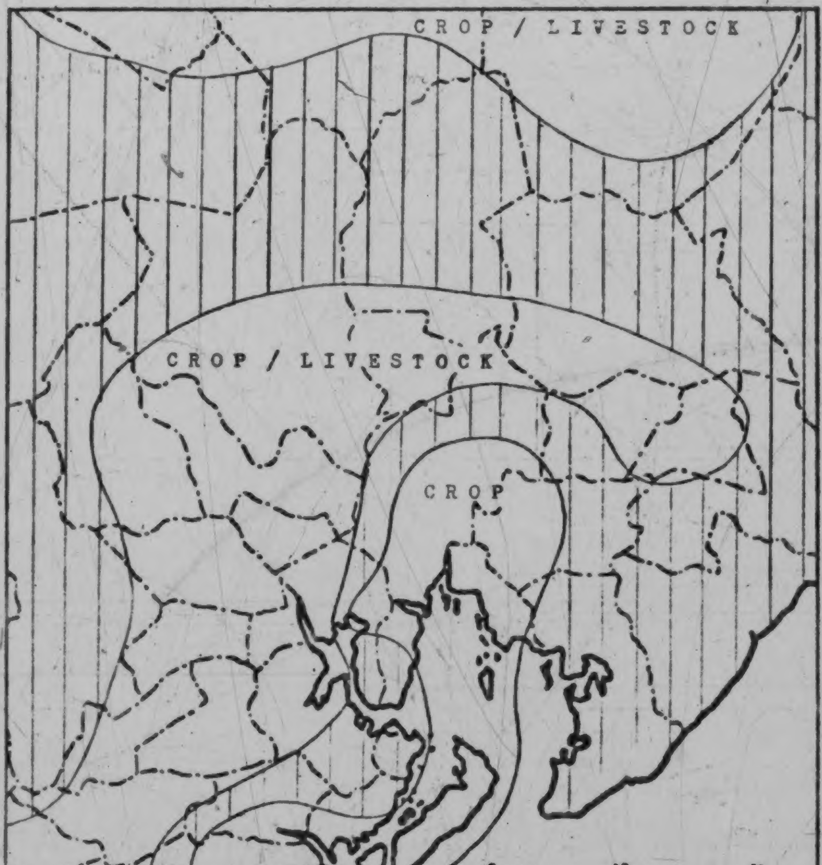
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CROP / LIVESTOCK
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RECÔNCAVO OF BAHIA

Regional Pattern of Specialized Agricultural Enterprises

Crop/Livestock - Area in which crop-livestock enterprises predominate
Crop - Area in which crop enterprises predominate

MAP 104

241 Mixed crop and livestock units dominated the agricultural land
231
233 of an inverted "L shaped" zone which began in the southwest and which,
311 in the Recôncavo, coincided approximately with the tobacco-manioc
region. Mixed crop and livestock units also dominated in the drier
taboleiros north of the Recôncavo. The intermediate zone between the
crop and crop-livestock regions within the Recôncavo was relatively
narrow, conforming to the pattern of rapid transition from sugar cane
to tobacco and manioc north of the Rio Paraguaçu. The outer transition
zone, in which no single property type dominated, included the outer
231 margins of the Recôncavo except in the southwest. Purely livestock-
233 producing units did not dominate the agricultural land of any extensive
area within or adjoining the Recôncavo.

241 The regions delimited above on the basis of the relative area in
311 the two types of crop-producing units had additional significance in
423 terms of the distribution of large-scale and small-scale enterprises
(Map 105). The mixed-unit region, in which manioc and tobacco are so
important, had only limited areas in large properties—usually 5 per
cent to 20 per cent of the enumerated area. There were few large
properties in the southern part of the crop unit region also, but in
the sugar cane area north of the Bay over 40 per cent of the enumerated
area was in large properties. These regional patterns of property
types conform to the distribution of mean property size (Map 106); the
mixed-unit region had mean properties of 10 to 20 hectares in the South-
western Recôncavo and 20 to 30 hectares north of the Rio Paraguaçu,
while the mean property size in the sugar cane area exceeded 100 hectares.

241 Size of Agricultural Properties. As has been seen, the agri-
423 cultural properties of the Recôncavo are highly diverse in size, as is
to be expected in an economy dichotomized into the predominantly

[TEXT CONTINUED ON PAGE 318]

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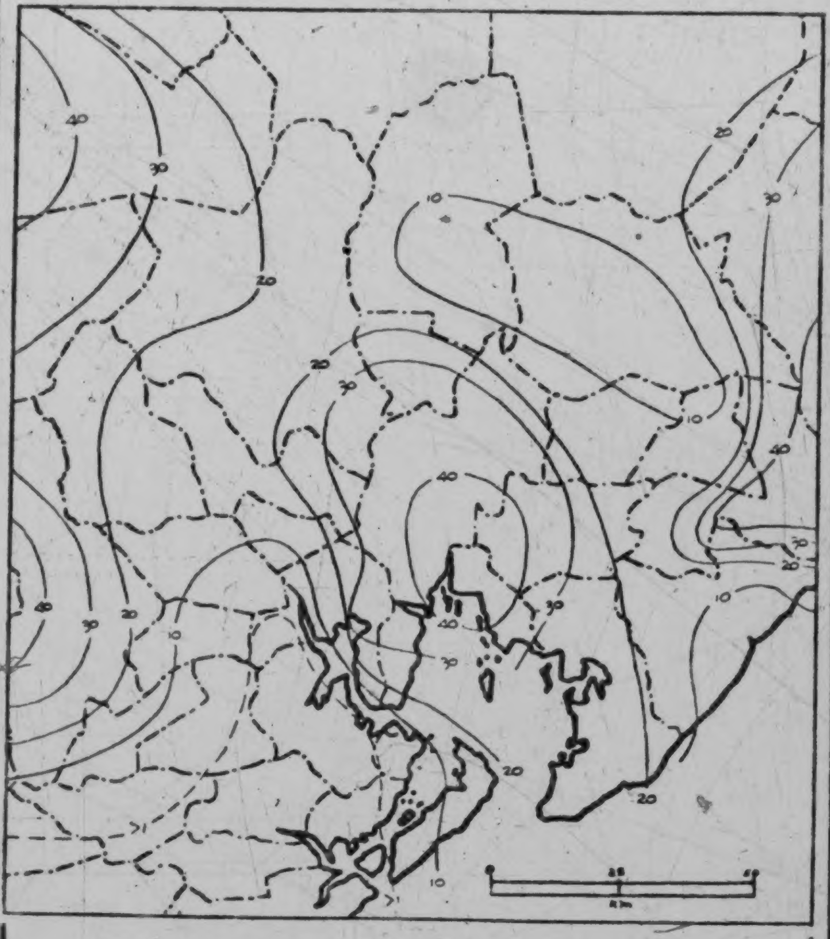

RECÔNCAVO OF BAHIA

Per cent of the Enumerated Area in Large-Scale Enterprises--1940

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 105

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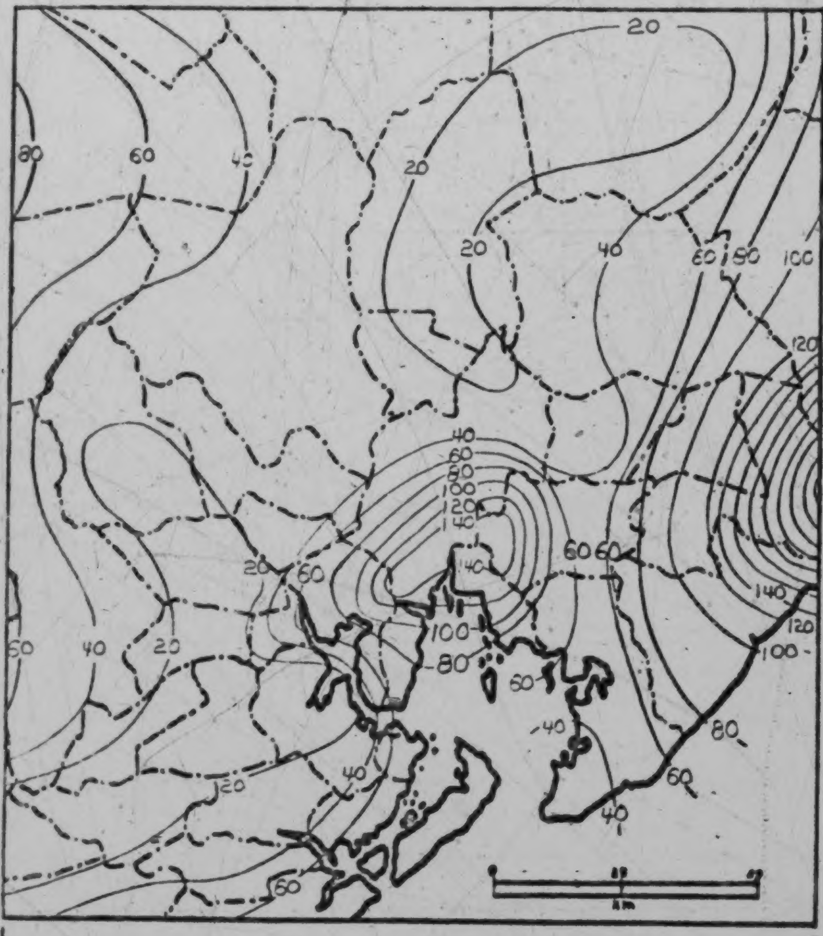
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Km

RECONCAVO OF BAHIA

Mean Size of All Agricultural Properties—1940

In Hectares

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos. Bahia. Vol. II.

MAP 106

241 423 small-scale agriculture of the tobacco and manioc cultivators and the large-scale system of the sugar industry. In 1940 the properties of the Recôncavo ranged from less than 2 hectares to over 10,000 hectares. This diversity is characteristic of the region as a whole, and also of the individual municípios. In 14 municípios of the Recôncavo at least 5 per cent of the properties were under 2 hectares in area, while in 12 municípios at least 5 per cent of the enumerated area was in properties of over 1,000 hectares. Within the Recôncavo the mean size of properties varied from 13 hectares in São Filipe to 136 hectares in São Francisco, and in municípios adjacent to the region, from 8 hectares in Santo Antônio to 255 hectares in Mata de São João.

On the basis of the mean size of agricultural properties, as on the basis of many other agricultural phenomena, the Recôncavo can be divided into two parts. The sugar cane region, as has been seen, is an area of large properties which had a mean size in excess of 100 hectares in 1940. The mean size of the agricultural properties of almost all other parts of the Recôncavo lay in the narrow range of 10 to 40 hectares. Although these figures are in a general way very significant, their meaning varies from place to place as the character of the agricultural components change.

In the 1940 census, agricultural properties were grouped into 15 classes on the basis of the total area in the various units:

Under 1 hectare
1-2 "
2-5 "
5-10 "
10-20 "
20-50 "
50-100 "
100-200 "
200-500 hectares
500-1,000 "
1,000-2,500 "
2,500-5,000 "
5,000-10,000 "
10,000-100,000 "
Over 100,000 "

After an inspection of the array of property size data, it was apparent that the distribution of small, medium, and large properties could be

241 423 analyzed through the use of only part of the data, thus simplifying the calculations. Properties of 0 to 10 hectares were used to represent small units; properties of 50 to 200 hectares to represent medium-sized units, and properties of over 500 hectares to represent large units. Thus the analysis of small, medium, and large properties which follows deals with a large sample of the Recôncavo's agricultural properties but not the entire array.

Small Properties. In every município of the Recôncavo at least one-fifth of the agricultural properties had less than 10 hectares of total area--in ten municípios over half the properties were under 10 hectares (Map 107). These small properties were particularly numerous in the Southwestern and Northern Recôncavo and in a narrow connecting zone--a concentration which conforms to the area of small crop-cultivation units discussed previously. There were also many small properties in the vicinity of Salvador. The number of small units in the Central Recôncavo was very limited, and most of the small properties which were present were grouped around, rather than within, the zone of commercial production of sugar cane.

The total area in small properties was less than 10 per cent of the enumerated area in most municípios (Map 108). There were two conspicuous exceptions where small properties were very numerous--in São Filipe and Irará:

	Size of Properties	Per cent of Total Number of Properties	Per cent of the Enumerated Area
São Filipe:	under 1 ha.	5	under 1
	1 - 2 ha.	15	2
	2 - 5 ha.	25	9
	5 -10 ha.	32	19
Total		77	31
Irará:	under 1 ha.	3	1
	1 - 2 ha.	11	1
	2 - 5 ha.	41	9
	5 -10 ha.	18	9
Total		73	20

[TEXT CONTINUED ON PAGE 322]

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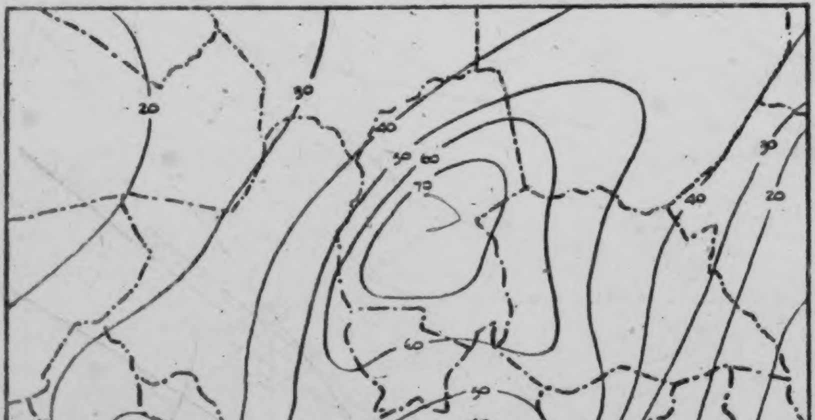
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RECÔNCAVO OF BAHIA

Per cent of All Properties with an Area of

Less Than 10 Hectares--1940

Source of data: Recenseamento Geral do Brasil. 1940. Censos Econômicos, Bahia, Vol. II.

MAP 107

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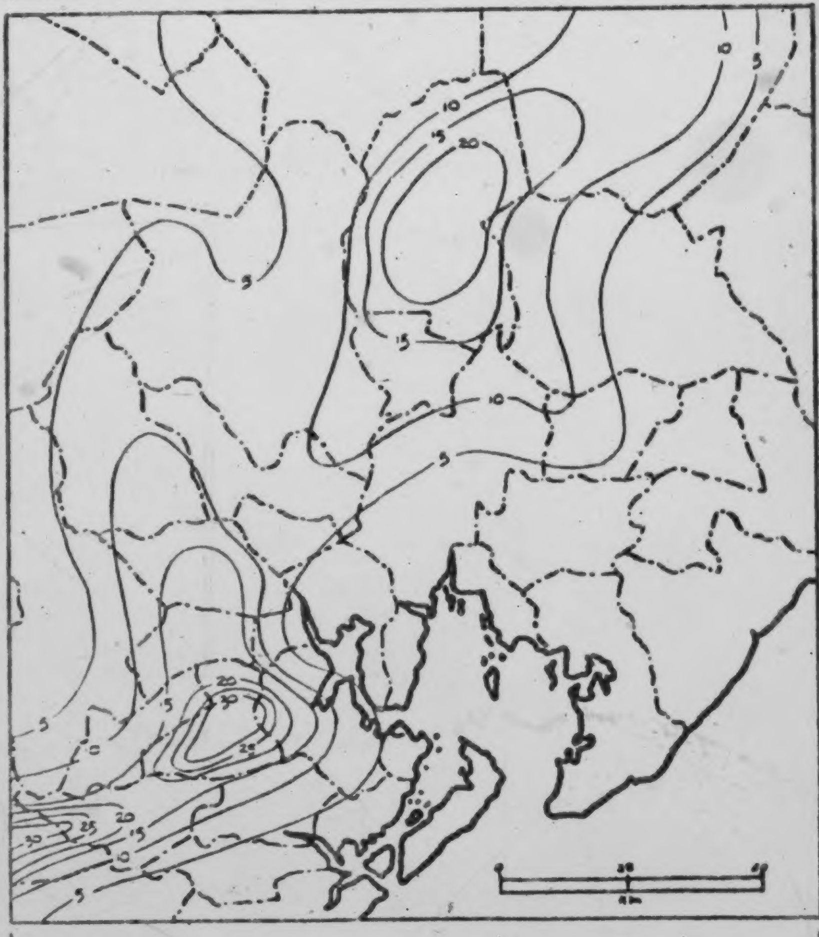
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RECÔNCAVO OF BAHIA

Per cent of the Enumerated Area in Properties with an Area of Less Than 10 Hectares—1940

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 108

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Medium-Sized Properties. The general pattern of medium-sized properties in the Recôncavo was analyzed through a study of the distribution of the units composing the 50 to 200 hectare classes. These properties were by no means as common as the small properties, except in the município of Pojuca (Map 109). Over 25 per cent of the total enumerated area was in these medium-sized properties throughout most of the outer Recôncavo, from the southwest sector to the northern limits of the município of Salvador (Map 110). The area along the littoral of the Bay and in the sugar cane zone, as well as along the extreme western and southwestern limits of the Recôncavo, contained fewer medium-sized properties.

Large Properties. Although there were few large properties, i.e., properties with over 500 hectares, in the Recôncavo as a whole, the area which they occupied within some municípios in 1940 was both extensive and significant. Over 70 per cent of the enumerated area was in large properties along the littoral and in the Coastal Plain section north of the Bay, as well as along the eastern and western frontiers of the Recôncavo (Map 111). Elsewhere in the region and adjacent to the northern and southern limits, the area in large properties was relatively limited, but there were some large units in every município except Cruz das Almas.

The large properties of the Recôncavo are particularly significant, for they play a very important role in the socio-economic complex of agriculture—a role disproportionately large in relation to their number and their portion of the agricultural land. East and west of the region these units generally were either very large ranches or, along the coast, coconut plantations. These large extra-Recôncavo properties were often very extensive--west of Castro Alves there were

TEXT CONTINUED ON PAGE 326

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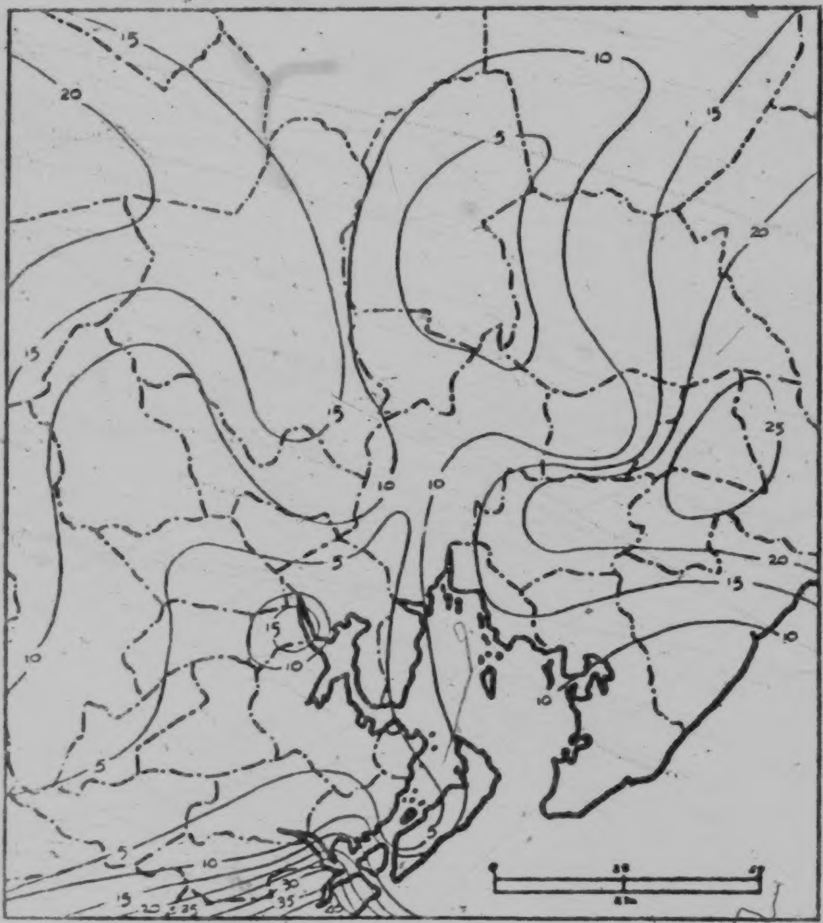
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RECÔNCAVO OF BAHIA

Per cent of All Properties with an Area of

50 to 200 Hectares--1940

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 109

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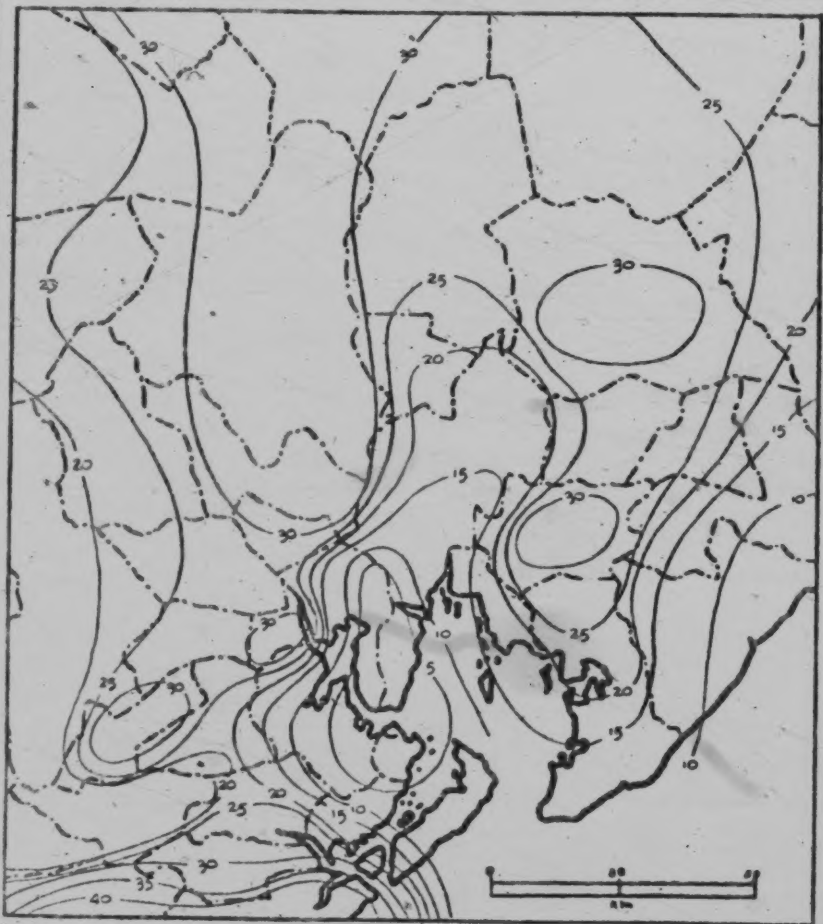
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RECÔNCAVO OF BAHIA

Per cent of the Enumerated Area in Properties with an Area of 50 to 200 Hectares--1940

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 110

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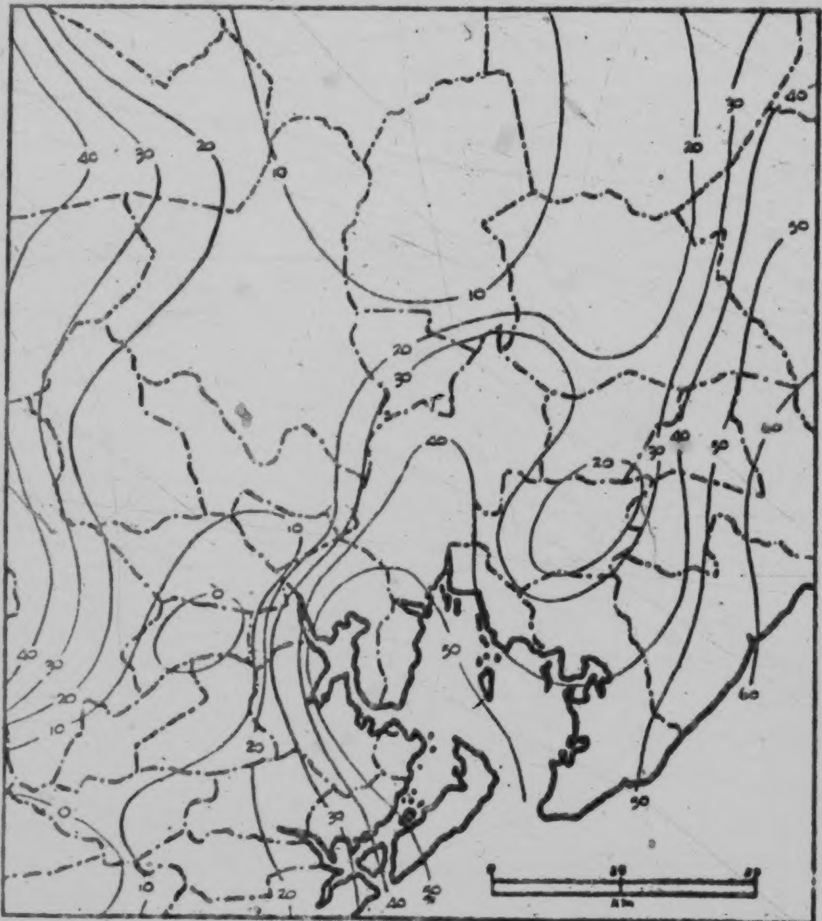
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RECONCAVO OF BAHIA

Per cent of the Enumerated Area in Properties with an Area of More Than 500 Hectares—1940

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 111

241 423 some properties in excess of 100,000 hectares of land. Such overwhelmingly large properties signalize a tremendous concentration of power and, for the sertão, much wealth.

The large properties of the Recôncavo were less extensive than the vast fazendas of the sertão, but they probably represented an even greater assemblage of economic and social power. The sugar cane plantations and the associated usinas, with their traditional prestige, large capital investment, and centralized production, are the preponderant social institutions of the Recôncavo. [249] [471]

Land Tenure. Most of the formal categories of farm tenure which are characteristic of the agriculture of the United States are present also in the Recôncavo: ownership by private individuals and corporations; operation by owners, administrators, renters, and "squatters."[5] However, the contrasts in property size and the centralized control of agricultural credit and capital in the Recôncavo give these these general types of agricultural tenure and operation a distinctive character.

241 423 472 Proprietor Operation. Most of the agricultural properties of the Recôncavo were operated by the owner in 1940. Only in the Southern Recôncavo--Maragogipe and Salvador--were less than half of the properties owner-operated. In most of the region and the adjoining area three-fourths of the units were operated by the owner (Map 112). The area occupied by owner-operated units was in excess of half the enumerated area in all parts of the region except the Southern Recôncavo (Map 113). However, the area in owner-operated properties was higher in the tobacco-manioc area of the Southwestern Recôncavo--70 to 80 per cent--than in either the tobacco-manioc or the sugar cane region north of the Bay. A greater contrast is reflected in the map of the mean size of owner-operated properties (Map 114). In Conceição do Almeida--

[TEXT CONTINUED ON PAGE 330]

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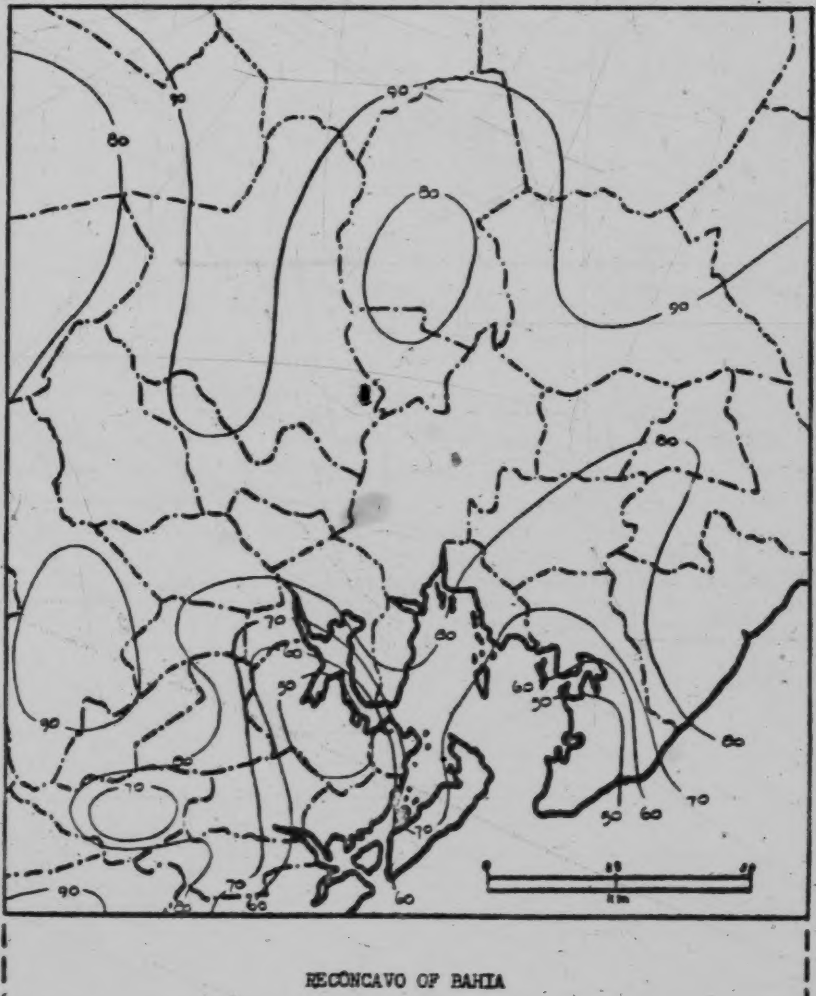
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RECÔNCAVO OF BAHIA

Per cent of All Agricultural Properties Which Were Owner-Operated--1940

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 112

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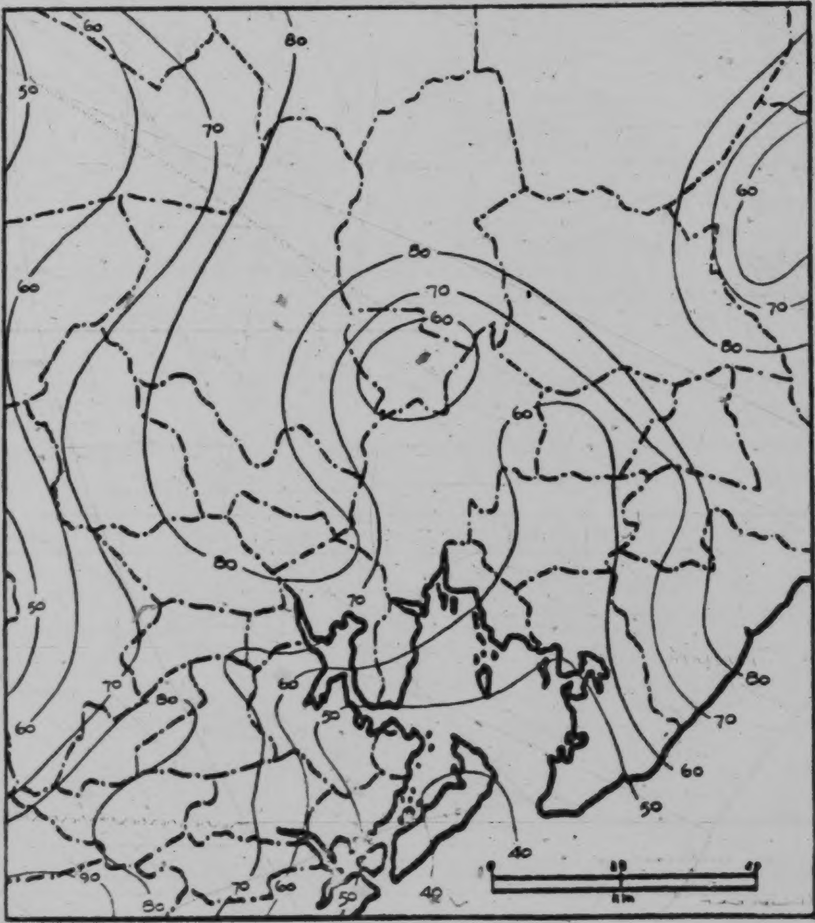
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RECÔNCAVO OF BAHIA

Per cent of the Enumerated Area in

Owner-Operated Properties--1940

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 113

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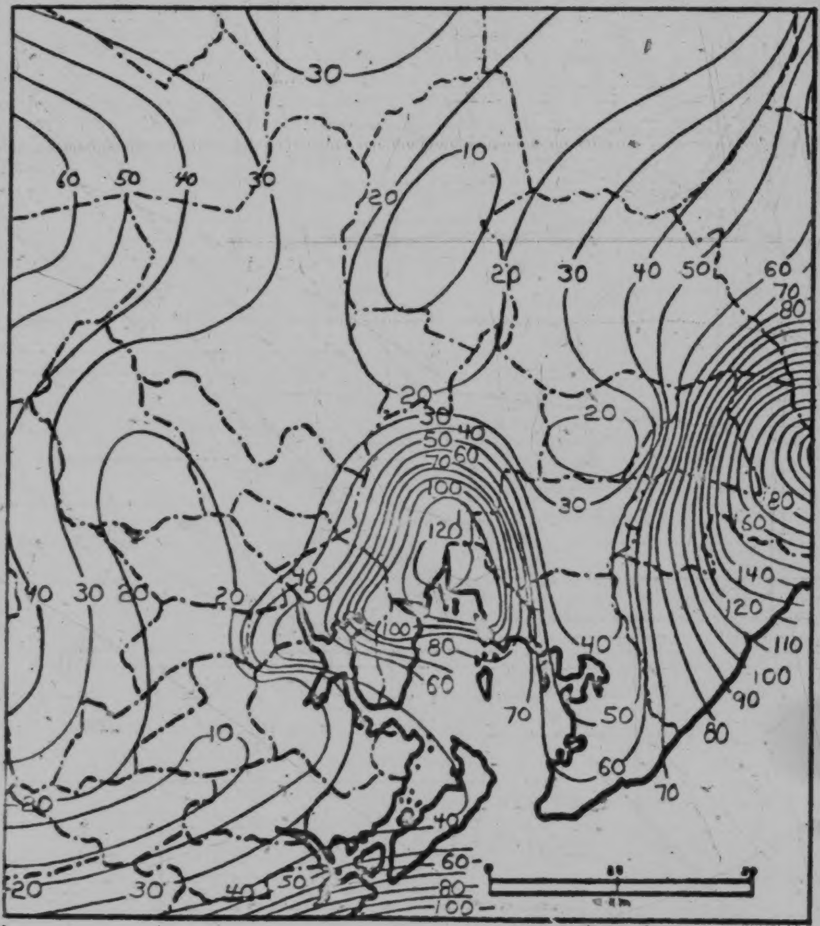
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RECÔNCAVO OF BAHIA

Mean Size of Owner-Operated Properties—1940

In Hectares

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 114

241 423 472 Southwestern Recôncavo--the 80 per cent of all units which were owner-operated had a mean size of 16 hectares in 1940. In São Francisco--Central Recôncavo--the 75 per cent of all units which were owner-operated had a mean size of 113 hectares. In general the mean size of owner-operated units in the tobacco-manioc region was from 15 to 30 hectares, while the mean size in the sugar cane region exceeded 100 hectares.

241 423 471 178 Operation by Administrator. Absentee ownership in the Recôncavo probably had its origin in the colonial period, when it was the practice of many of the senhores de engenho (sugar cane planters) to spend part of the year in Salvador. As the urban interests of the owner increased, the management of some properties passed into the hands of overseers, frequently drawn from the mixed-blood retinue of the plantation owner. To a lesser extent the same practice seems to have developed in other parts of the Recôncavo, as the property owner became involved in business, in the professions, or in politics in the cidades or in Salvador. The development of corporate landholding as a concomitant of the usina system has made agricultural administrators even more numerous.

241 423 471 Properties operated by administrators were found in every município of the Recôncavo in 1940 (Map 115). In 13 municípios over one-tenth of the properties were so operated. The number of administrator-operated properties was relatively large in São Félix--25 per cent--in the sugar cane region, but also in the município of Salvador and on the island of Itaparica opposite.[6] The area in administrator-operated properties was relatively great in the sugar cane zone--30 to 40 per cent--and near Salvador, in general conforming to the pattern of the relative number of properties under administrators (Map 116). However, administrator-operated properties in the Central Recôncavo were relatively large--200 hectares in São Francisco

[TEXT CONTINUED ON PAGE 333]

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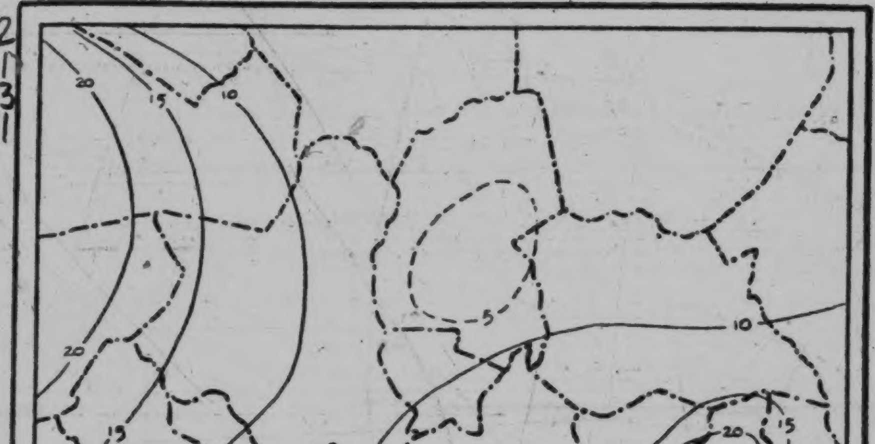

RECÔNCAVO OF BAHIA

Per cent of All Agricultural Properties Which Were

Operated by Administrators—1940

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia. Vol. II.

MAP 115

702
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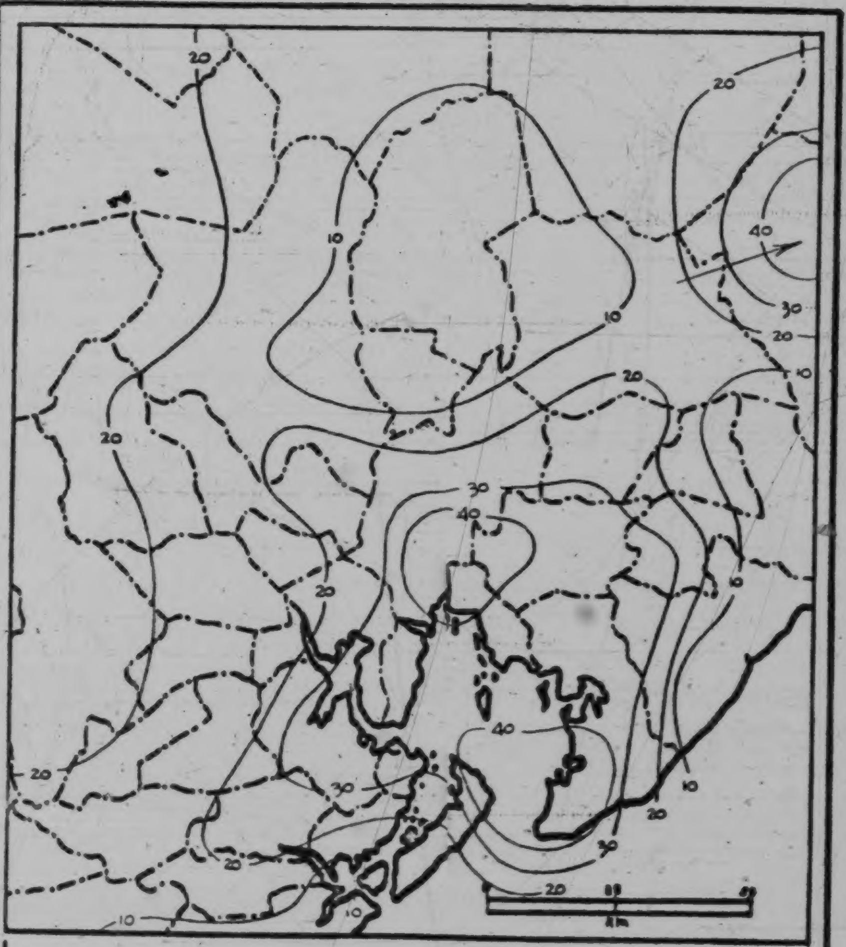
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RECÔNCAVO OF BAHIA

Per cent of the Enumerated Area in

Administrator-Operated Properties—1940

Source of data: *Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia*, Vol. II.

MAP 116

241 423 471 and 161 hectares in Santo Amaro--while those of the Salvador area were relatively modest—81 hectares in Salvador and 72 hectares in Itaparica.

241 427 Rented Properties. There were few rented properties in the Recôncavo as a whole in 1940 (Map 117), but in three areas over 10 per cent of the properties were rented: in the core of the tobacco-manioc area of the Southwestern Recôncavo; in Irará; and around Salvador. In Maragogipe, 52 per cent of the properties, occupying 15 per cent of the enumerated area, were rented (Map 118). In Santo Antônio, adjoining the Southwestern Recôncavo, over 30 per cent of the properties were rented, but along the western and norther border zones of the Recôncavo there were very few rented properties. Because of the small size of the units, rented properties in the Recôncavo generally occupied less than 10 per cent of the enumerated area.

[244] [249] The rented properties of the tobacco-manioc crop region were usually small, from 10 to 30 hectares, but in the sugar cane area they averaged over 200 hectares (Map 119). If the official data are correct, the mean size of rented properties in Coração de Maria was over 267 hectares, but this seems very unlikely and has not been shown on the map.

241 423 471 Corporate Lands. In 1940, one-hundred ninety-eight of the 29,000 agricultural properties of the Recôncavo were owned by corporations or companies. The total area of these properties was 33,000 hectares, almost 4 per cent of the total enumerated area of the region. Moreover, the land which composed these properties was some of the most productive in the Recôncavo. The number of corporate properties and the concentration of land under corporate ownership almost certainly has increased since 1940.

[TEXT CONTINUED ON PAGE 337]

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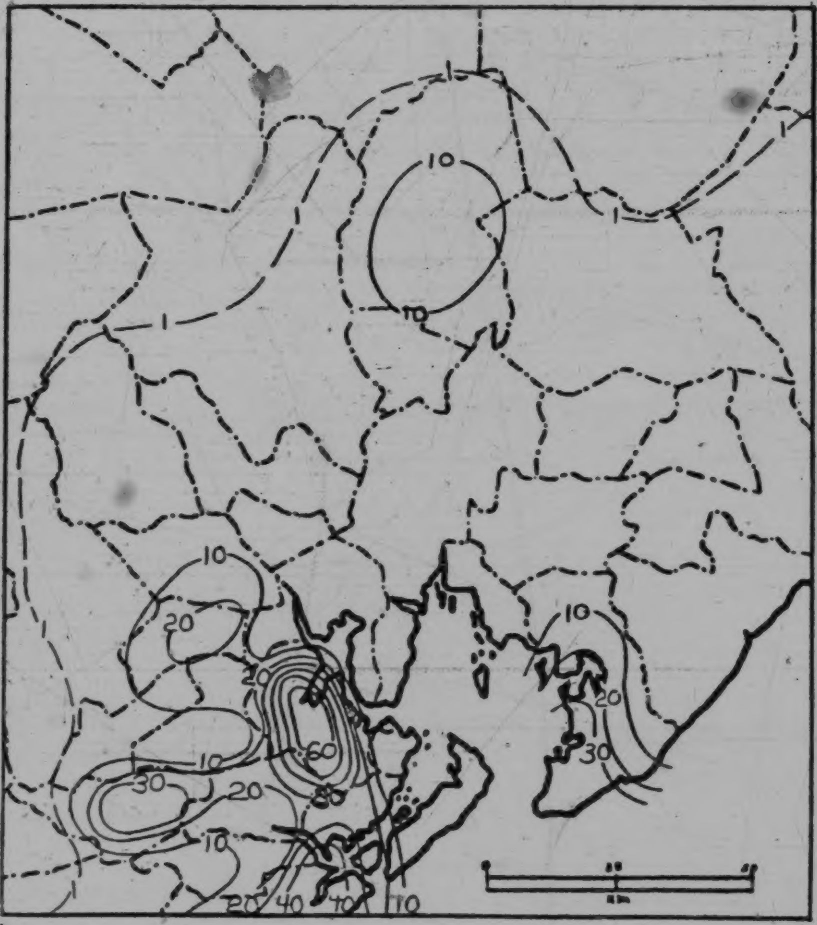
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RECÔNCAVO OF BAHIA

Per cent of All Agricultural Properties Which Were

Operated by Renters—1940

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 117

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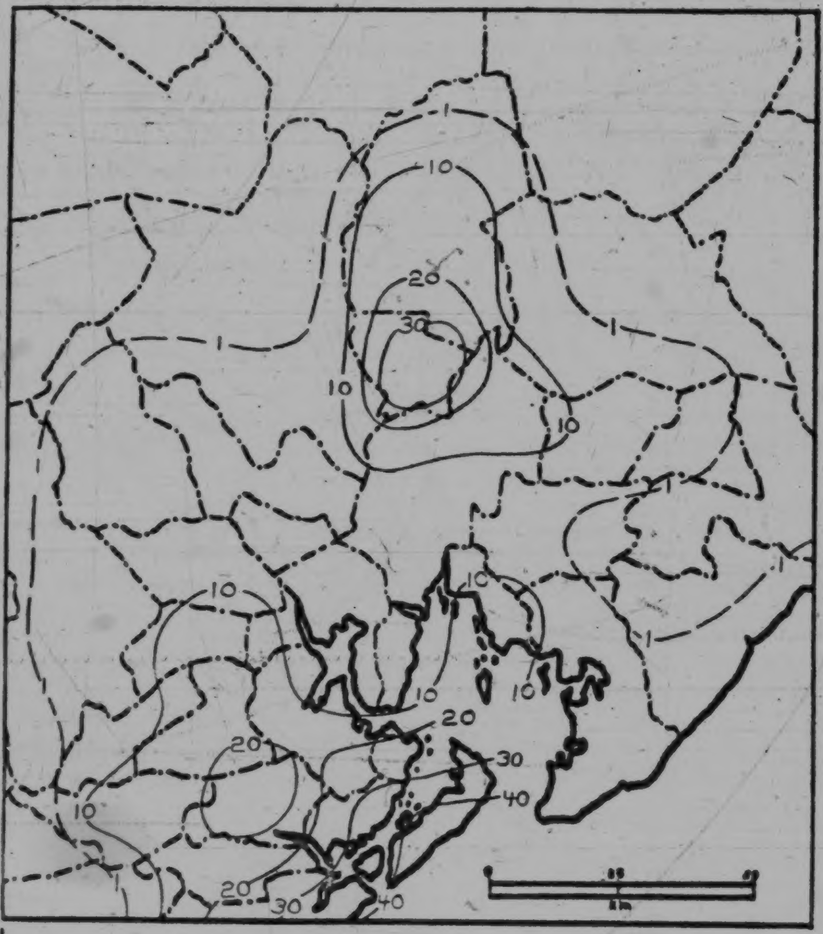
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RECÔNCAVO OF BAHIA

Per cent of the Enumerated Area in

Renter-Operated Properties--1940

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 118

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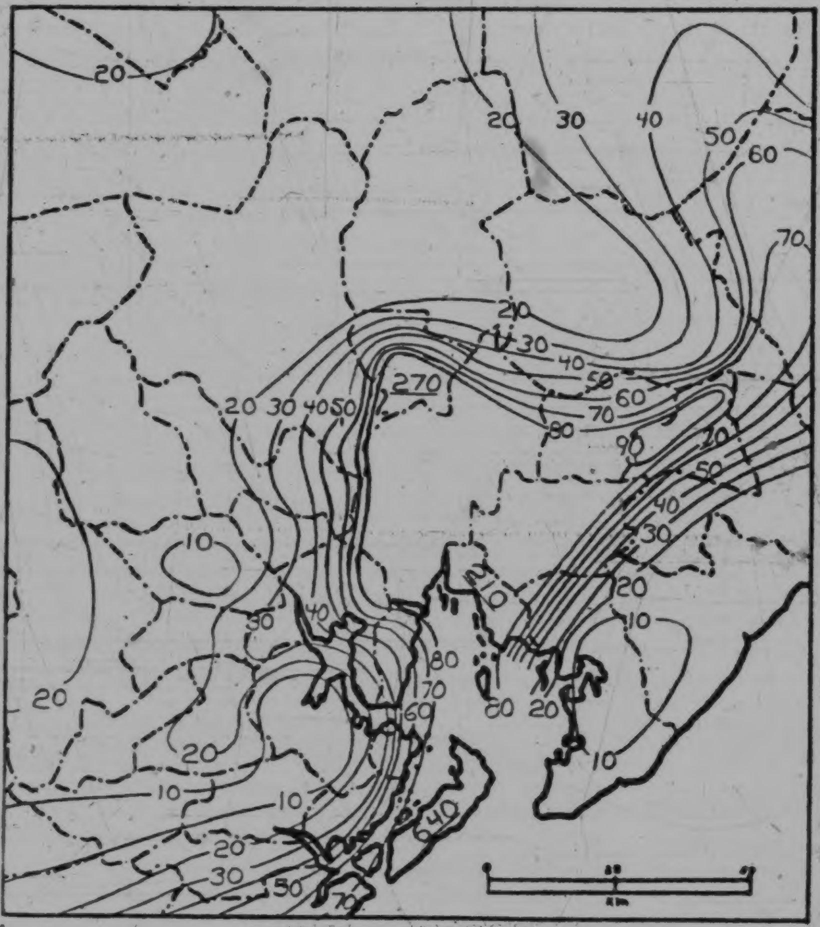
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RECÔNCAVO OF BAHIA

Mean Size of Renter-Operated Properties—1940

In Hectares

Source of data: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.

MAP 119

241 423 471 [249] Although there were a few corporate lands in the vicinity of the city of Salvador in 1940, the main concentration was in the sugar cane area north of the Bay. Here the large corporately-owned usinas controlled as much as 30 per cent of the agricultural land. Most of these corporate properties were sugar cane plantations, but some were cattle ranches and other accessory properties. The corporations tend to dominate the sugar cane areas which are most productive and most favorably located for the transportation of cane and of the refined sugar and other products.

Conclusion. The strong network of interpersonal relationships, discussed in connection with crop cultivation and systems, is often more important than the purely formal aspects of land ownership and operation in the Recôncavo. The agricultural society of the Recôncavo is closely knit, so that the effective freedom of operation of the farm operator [565] is very limited. Although the large and rich landowners have, on some levels, a greater latitude than the small operators, they too are enmeshed in a system of inherited economic and social obligations and are subject to the restrictions imposed by the urban upper class.

241 441 442 472 The two primary local supervisory groups in the agricultural society are the merchant-buyers of the tobacco-manioc region and the general administrators and plantation owners of the sugar cane region. [656] However, both these groups are under the more or less immediate control of the sugar and tobacco companies in Salvador and of the official Instituto do Açúcar e do Álcool and the Instituto Baiano do Fumo.[7]

249 471 472 656 The operations of the sugar cane plantations are dictated by the mills, which specify the type and quantity of cane and the schedule of delivery. In turn, the amount of sugar produced by the mill is determined by the Instituto do Açúcar e do Álcool, while the policy of

BB
249 operation is determined by the company officers, who generally live in
471 Salvador. The company, in its turn, is subject to some control from
472 Rio de Janeiro and São Paulo investors. This structured system of con-
[656]
trol probably is one of the reasons for the continuation of the monoculture in the sugar cane area. The usual explanation offered for the cane monoculture is the unique suitability of the soil and climate and the innate conservatism of the Baiano. However, one of the features of the present sugar economy is the lack of capital for other enterprises. The absentee owners, who are the only likely source of capital, are hesitant to advance money for new and untried enterprises. Moreover, alternative agricultural enterprises, if successful, would reduce the supply of cane and thus eventually raise the cost of usina operation.

BB
249 In the tobacco-manioc region the control exercised by Salvador
244 is indirect, but compelling, because the small tobacco producer is almost
442 completely at the mercy of the buyer, who receives orders from the
tobacco exporter and manufacturer through the agent.

BB
241 The differences in production specialization, size, and tenure
423 among the agricultural properties of the Recôncavo both accentuate
471
[184] the basic dichotomy of the region and re-emphasize its unity. The
[231] small-scale mixed crop cultivation and livestock producing unit of the
[233] tobacco-manioc region and the large-scale crop cultivation unit of
the sugar region are both esentially engaged in the production of commercial crops. Both are distinct from the primary agricultural unit of the sertão, the livestock ranch. Both are subject to the over-all economic control of the center—Salvador.

B
BB
241 In most parts of Brazil, as in the Recôncavo, the agricultural
423 properties are highly diverse in size, function, and ownership. Most
184 areas of sugar cane cultivation have relatively large properties,
[249] primarily engaged in crop cultivation. In other areas, as in

B In other areas, as in
BB the Recôncavo, more and more of the cane plantations are passing into
249
471 the hands of the central mills and are being operated by administrators.
423
178 Small properties, owner or renter operated, are also a widespread
B feature of the Brazilian agricultural scene. Frequently, as in the
BB Recôncavo, large and small properties are intermixed in zones where
241
231 several crops and livestock are raised jointly. Throughout Brazil the
233
423 class of small property holders is tied to the merchant and large land-
B holder class by a network of economic and social relationships much like
241
423 those of the Recôncavo. Apparently the number and total area of small
471 properties is growing, especially in Central and South Brazil. If this
178 be so, the development of small farms in the Recôncavo, such as those
producing tobacco and manioc, is part of the nationwide trend.

OOO Footnotes - Chapter VIII

[1] *Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II.*

[2] The data for the total area of the various *municipios* used in this analysis are taken from *Características Demográficas do Estado da Bahia, No. 8.* These data are the most recent and presumably most accurate available for the state of Bahia. In a number of cases they disagree markedly with area given in the 1940 census, which was based upon earlier and probably less accurate calculations from older maps.

[127] [3] The distinction between large- and small-scale units was made in the census as follows: (1) Agricultural units with over 50 hectares in "major crops (pineapple, alfalfa, cotton, rice, oats, potatoes, sugar cane, rye, barley, beans, tobacco, castor beans, manioc, corn, wheat, coffee, cacao, coconuts, oranges, bananas, or grapes) were large-scale. All others were small-scale. Area in these crops was estimated from production figures and mean yields. (2) Livestock units with 200 head of cattle or sheep; 100 head of horses, goats, or pigs; or 50 asses or mules, or an appropriate combination of these, were large-scale. Alternatively, a smaller number of reproductive females—100 cows or ewes; 60 mares; or 20 sows—made the unit large-scale. All others were small-scale. (3) Crop-livestock units, in order to qualify as large-scale units, had to satisfy both criteria simultaneously.

[241] [13] [84] [361] [4] The size, shape, and physical and economic diversity of many of the *municípios* of the Recôncavo make it very difficult to evaluate and to map mean data. This is particularly true of Santo Amaro, of which part is in the sugar cane region, part in the tobacco-manioc region, and part in sparsely settled forest land. It is also true for São Gonçalo, which stretches from the humid Intermediate Hills to the dry western *caatinga*. Of all the *municípios*, only São Félix and Conceição da Feira, both very small, have a relatively homogeneous landscape. The details of the interpretations and, to an even greater extent, the maps were drawn with numerous inferences based upon correlative data and field observations.

[5] Agricultural properties are also held by religious orders, syndicates, cooperatives, and other legal persons, but such properties are not very common in the Recôncavo. "Squatters," as defined by the census, included both those who occupied public land legally but without title and those who illegally occupied private land. Renters included both cash and share renters.

[6] There were about 50 administrator-operated properties, with an average size of 30 hectares, in the *município* of São Félix, according to the census. The reasons for this concentration are not apparent, especially since this local phenomenon was not studied in the field. The concentrations around Salvador and on the island of Itaparica are suburban country houses—*chácaras*—a Brazilian institution. Many of these *chácaras* are on small properties which are operated by an overseer and which produce some agricultural products, especially vegetables and fruits. A large number of these properties line the eastern shore of the island of Itaparica; there are also a few in the forested area around Salvador.

CHAPTER IX

VALUE OF AGRICULTURAL PRODUCTION

B BB 241 128 The analysis of the distribution of cropland and of the quantity of production has established the Recôncavo as a distinctive regional unit of Bahia and of Brazil without formulating clearly the importance of the region to the state or the nation. Similarly, the internal differentiation of the region has been discussed in terms of various *municípios*, sub-regions, and crop regions without establishing the basic importance of these to the Recôncavo except as components of the agricultural landscape or as producers of crops with an unspecified value. Although the value of agricultural production is not exclusively economic, monetary value is one of the most useful general standards for estimating the collective and individual importance of diverse agricultural products.

B BB 128 The tables and discussion which follow have three purposes: (1) the estimation of the importance of the Recôncavo and its individual products to the Brazilian and the Bahian economy; (2) the determination of the importance of individual products within the economy of the region; and (3) the evaluation of the economic importance of the crop regions, previously delimited, to the Recôncavo.

B BB 241 433 The total value of the crops of the Recôncavo was less than 1 per cent of the total value of crop production in Brazil in 1948, based upon a comparison of the value of 21 principal crops of Brazil and of the Recôncavo which are given in Table XV. Although for several centuries the region was an outstandingly productive center of the Brazilian economy, BB 245 433 439 today it plays a secondary role even within Bahia. In recent decades the southern coast of the state, growing cacao for foreign markets, has

[TEXT CONTINUED ON PAGE 344]

1:Haskins K-4.5 (1952-1954)1956 SO11 Bahia Brazilians SO11
Brazil SL1
South Brazil SM1
East Brazil SN1
Northeast Brazil SO1
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TABLE XV

VALUE OF THE CHIEF COMMERCIAL PRODUCTS OF THE RECÔNCAVO COMPARED WITH OTHER AREAS--1948

Agricultural Products	Value of Production in Cr.$000			
	Recôncavo	Bahia	Other Centers*	Brazil
Crops:				
Leaf Tobacco	86,700	155,041	227,266 - Rio Grande do Sul	615,293
Manioc	70,600	292,373	351,427 - Minas Gerais	2,357,570
Sugar Cane	54,200	148,980	458,254 - Pernambuco	2,425.494
Beans	15,500	123,552	670,274 - Minas Gerais	2,719,235
Oranges	14,800	28,904	191,938 - Rio de Janeiro	567,790
Bananas	9,200	35,503	144,525 - São Paulo	754,380
Corn	8,200	71,623	1,423,153 - Minas Gerais	5,249,030
Coconuts	6,500	46,368	42,135 - Paraiba	225,870
Coffee	3,400	95,958	3,947,704 - São Paulo	6,450,919
Pineapples	1,700	4,130	24,020 - São Paulo	94,404
Peanuts	1,300	1,738	258,287 - São Paulo	292,274
Sweet Potatoes	1,200	19,837	100,732 - Rio Grande do Sul	435,547
Total of 12 Crops	273,300	1,024,057		22,137,506
Total of 21 Principal Crops**	275,000	1,731,164	11,213,444 - São Paulo***	33,082,875
Livestock	60,000			

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*In each case the figure which is used for comparison is that of the principal producer of the individual crop in Brazil, except in the case of coconuts, where Bahia is the chief producer and the second most important center has been used.

**These are the 21 principal crops of Brazil which are listed in Produção Agrícola: 1948.

***São Paulo was used in this comparison because the total value of its production of the principal crops exceeds that of any other state.

Source: Produção Agrícola: 1948.

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come to be the area of the greatest value of agricultural production in the state—Cr.$1,007,824,000, in 1948, almost three times the value of crop and livestock production in the Recôncavo, Cr.$335,000,000.

B BB 231 233 433

The total value of livestock production in the Recôncavo is estimated to be about Cr.$60,000,000 for 1948. Although no comparable figure is available for Brazil, probably the Recôncavo had less then 1 per cent of the livestock and thus produced less than 1 per cent of the value of livestock in the nation as a whole.[1]

B BB 433

The present inferior position of the Recôncavo is in part a reflection of the relative decline of the region in the nineteenth century discussed in the chapter on the evolution of the Recôncavo. However, the Recôncavo continues to lag behind in the contemporary development of Brazil.

B BB 241 249 433 [458] [650]

From 1944 to 1952 the total cruzeiro value of the principal crops of Brazil increased four-fold, while the value of Bahia's tobacco crop, a good indicator of the economic shifts of the Recôncavo, increased by only one-fifth despite the concurrent inflationary spiral. Even the government-stabilized sugar industry of the Recôncavo produced only three and one-half times its 1944 value. Although the above increases are more indicative of the steadily declining value of Brazilian currency than of true economic development, they are an index of the relative importance of agriculture in the Recôncavo to the national economy.

BB 249 244 433 311

Tobacco, sugar cane, and manioc, which occupied 70 per cent of the Recôncavo's cropland, accounted for 77 per cent of the total value of all principal crops in 1948 (Table XVI). Each of the three crops contributed at least 20 per cent of the value of all crops, while no other crop produced over 6 per cent of the total. The cruzeiro value of these principal crops, and of livestock, and their relative position within the nation has been given in Table IV, above.

TABLE XVI

RELATIVE CROPLAND AND VALUE OF ALL CROPS OF THE RECÔNCAVO WITH A VALUE OF MORE THAN Cr.$1.000,000 IN 1948

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Crop	Per cent of the Cropland of the Recôncavo	Per cent of the Value of All Principal Crops of the Recôncavo
Tobacco	27	32
Manioc	28	25
Sugar Cane	15	20
Beans	9	6
Oranges	1	5
Bananas	1	3
Corn	12	3
Coconuts	1	2
Coffee	4	1
Pineapple	<1	<1
Peanuts	<1	<1
Sweet Potatoes	<1	<1

Source: Calculations and estimates based on data from Produção Agrícola: 1948.

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[311]
[435]

The leading position of tobacco results in part from its extensive cultivation, and in part from its relatively high unit value. While the mean value of production of all crops in the Recôncavo was Cr.$3,400 per hectare in 1948, tobacco produced Cr.$3,900 per hectare, as given in Table XVII, which also shows the value of production per hectare of the other principal crops. The leading position of tobacco is at variance with tradition which, as has been seen, assigns the first rank to sugar cane. Not only was tobacco the most valuable crop of the Recôncavo in 1948, but it was also the leading crop in seven municípios of the tobacco-manioc region, where it accounted for a minimum of 40 per cent of the value of all crops. Within four separate municípios of the crop region, it accounted for about 60 per cent of the total value of crops (Map 120). The Southwestern Recôncavo was the chief center of the production of tobacco, as indicated by value as well as by cropland and bulk, for it produced over 63 per cent of the total value of tobacco in the Recôncavo. Within this section, Cruz das Almas was the

[TEXT CONTINUED ON PAGE 347]

TABLE XVII

MEAN VALUE OF PRODUCTION PER HECTARE FOR THE CROPS OF THE RECÔNCAVO IN 1948

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Crops	Value of Production Cr.$1.000 per ha.
Principal Crops*	
Tobacco	3,900
Manioc	3,100
Sugar Cane	4,600
Beans	2,200
Oranges**	13,300
Bananas**	8,600
Corn	800
Coconuts**	7,400
Coffee**	1,400
Pineapple	1,000
Peanuts	2,400
Sweet Potatoes	3,500
All Crops	3,400

*Crops with a value in excess of Cr.$1,000,000.

**There is little consistent relationship between the area and production of these crops, so that local values for these crops often depart widely from the mean.

Source: Calculations and estimations based upon Produção Agrícola: 1948.

249 433 leading producer--40 per cent of the total value of the tobacco crop. Notwithstanding the dominant role of the Southwestern area, tobacco production north of the Rio Paraguaçu was also significant--contributing 24 per cent of the total value of the crop.

As has been indicated, several grades of tobacco are produced in the Recôncavo. The superiority of the tobacco production of the Southwestern Recôncavo is more than a matter of hectares of cultivation or kilograms of leaf. The area is the core of the "Mata Fina" zone, within which the leaf of Cruz das Almas is assigned the highest price. [439] The "Mata Fina" leaf is the basis of the export of cigar tobacco to European markets. In its concern with cacao, the most valuable export, [245] [439] Bahia tends to forget the important role which tobacco plays in its economy, and with this, so the people of the zone sometimes feel, to

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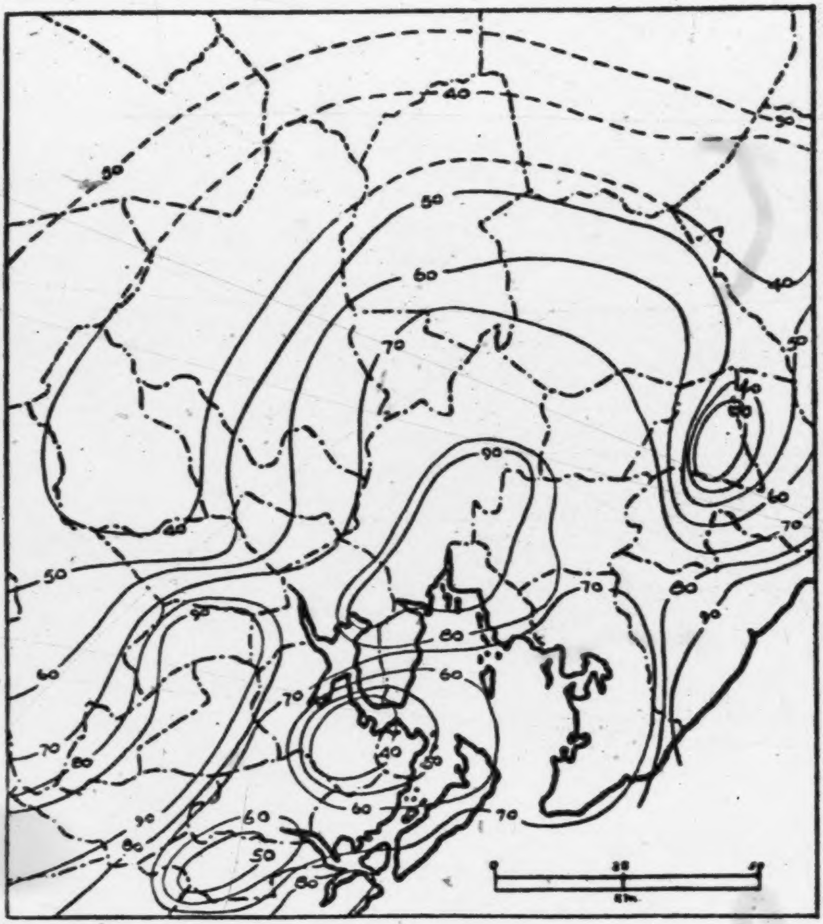
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RECONCAVO OF BAHIA

Per cent of the Total Value of Crop Production

Contributed by Commercial Crops—1948

MAP 127

Except in the
241 southwest and around Salvador, commercial crops produced only 40 per
433 cent of the total value of all crops. It is apparent that agriculture in the Recôncavo is by no means universally commercial. Moreover, in all parts of the Recôncavo except the sugar cane area, there are small agriculturalists who produce few commercial crops and are thus virtually subsistence cultivators.

241 The estimated value of livestock production was less than that of
231 crops in all areas of the Recôncavo except Feira de Santana, and, except
233
433 in Feira de Santana and Alagoinhas, less than half the value of crops (Map 1[illegible]8). In the chief commercial crop areas--Central and Southwestern Recôncavo--livestock production had about 10 per cent of the value of crops. These areas, on the evidence of value as well as land use and quantity of production, have highly commercial crop economies. Only Feira de Santana can be said to have a livestock economy, and in this area livestock production is concentrated around the *cidade*, and the rest of the *município* has a predominately crop-producing economy.

128 The table which follows (Table XVIII) summarizes the distribution
241 of the value of crops and animals in the principal regions and zones
231
233 of production. These areas accounted for 82 per cent of the total
433 value of agricultural production in the Recôncavo in 1948. The data of this table give further evidence of the tremendous economic importance of the tobacco-manioc and sugar cane regions to the Recôncavo.

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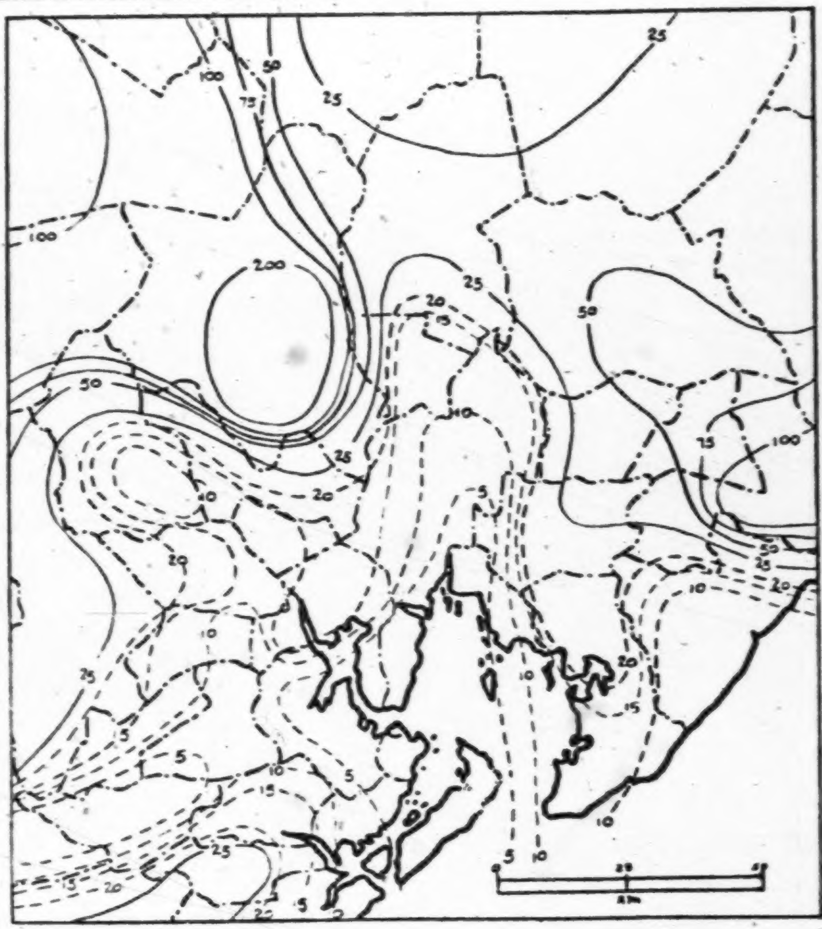
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RECÔNCAVO OF BAHIA

Value of Livestock Production as a Per cent of
the Value of Crop Production--1948

MAP 128

TABLE XVIII

VALUE OF AGRICULTURAL PRODUCTION OF THE PRINCIPAL CROP REGIONS AND OTHER AREAS OF THE RECÔNCAVO—1948

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	Value of Production	
Sugar Cane Region (Sugar Cane & Animals)		
Main Area North of Bay		
Santo Amaro	Cr.$35,200.00	
Western São Sebastião	12,700.00	
Western São Francisco	4,700.00	
Total	52,600.00	
Cachoeira	1,500.00	
Southern São Filipe (no animals)	3,600.00	
Total—Sugar Cane Region		Cr.$57,700.00
Tobacco-Manioc Region (All Crops & Animals)		
In Southwestern Recôncavo		
Conceição do Almeida	26,400.00	
Cruz das Almas	57,700.00	
Eastern Muritiba	14,900.00	
Northern São Filipe	11,000.00	
São Félix	5,700.00	
Northern Maragogipe	3,300.00	
Total	119,000.00	
In Other Sub-Regions of Recôncavo		
Conceição da Feira	4,900.00	
São Gonçalo	11,400.00	
Feira de Santana	6,100.00	
Irará	9,300.00	
Coração de Maria	4,900.00	
Santo Amaro	17,900.00	
Catu	3,600.00	
Total	58,100.00	
Total—Tobacco-Manioc Region		177,100.00
Feira de Santana Livestock Area		16,000.00
Bay Margin and Suburban Areas		
Itaparica	6,900.00	
Salvador	8,900.00	
Maragogipe	1,000.00	
Santo Amaro	2,000.00	
São Francisco	4,200.00	
Total		23,000.00
Total		Cr.$273,800.00

Source: Calculations and estimates based upon *Produção Agricola: 1948*.

505 abuse by the sea and by man. While some of these boats are used for
[226] fishing in the Bay and in the ocean, their most important function
undoubtedly is bringing food from the areas around the Bay to the city
of Salvador. On the return trip, they carry building materials,
[249] manufactured articles, and passengers. The *usinas* of the coastal
[257] sections of the sugar cane area use these vessels to transport cane
to the mill and to deliver the products of the mill to Salvador. Several of the cities on the Bay are very much dependent upon this means of transport, especially São Francisco and Maragogipe, which for all practical purposes have no road connections.

Motor boats serve to connect Salvador and the island of Itaparica. All of the tidewater *cidades* of the Bay and, in addition, São Roque do Paraguaçu and Nazaré are connected with the city of Salvador by scheduled motor vessels which carry many passengers and small quantities of freight. These vessels ascend and descend the estuaries with the tide. The head of navigation on the Rio Paraguaçu is Cachoeira, and on the Rio Sergi is at a landing on the outskirts of Santo Amaro.

489 These various transport media provide for the movement of people
241 and goods across the Recôncavo. They are generally able to meet the
433 immediate demands of the agricultural economy without excessive delays.
The available media of transport are used to the fullest extent; busses, trains, and motor vessels are always crowded, and the trucks are always busy. However, the poor roads, the archaic railroads, the taxes on the movement of goods, and the high cost of vehicles clearly set a limit to the expansion or the intensification of the agricultural system. The rationalization of agriculture in the Recôncavo would require considerable expansion and improvement of the system of transportation.

CHAPTER XI

CONCLUSION

128 In the preceding chapters the results of a statistical appraisal and a field investigation of agriculture in the Recôncavo have been presented. As a conclusion it seems appropriate to: (1) summarize the findings; and (2) discuss the potentialities of the Recôncavo for agricultural development

433 Like most of the densely-settled east coast of Brazil, the
241 Recôncavo is engaged primarily in the production of crops. This is true
not only of the region as a whole, but also of each of its individual
parts excepting only the area around the cattle market town of Feira de
241 Santana. The total cultivated area of the region, about 6.4 per cent
311 of the land surface, was almost evenly divided in 1948 between purely
commercial crops--tobacco, sugar cane, coffee, oranges, and coconuts--
and subsistence-commercial crops--manioc, corn, beans, bananas, peanuts,
and sweet potatoes. About 70 per cent of the cropland was used for the
three predominant crops--manioc, tobacco, and sugar cane. Livestock pro-
231 233 duction is associated with crop cultivation in many parts of the
241 Recôncavo, but the region is also dependent upon the sertão of Bahia
for livestock, which are driven into Feira de Santana and are used in
several different areas within the region.

249 The three principal crops as determined by cultivated area--
244 433 tobacco, manioc, and sugar cane--accounted for 77 per cent of the total
value of crops in 1948, and no other crop accounted for more than
[231] 6 per cent of the total value. Thus agriculture in the Recôncavo is
[233] primarily concerned with these three crops and with the production

000 the storekeeper-buyer or the local tobacco warehouse. The roots of the
258 438 manioc are processed locally, in *casas de farinha*, and the *farinha de
mandioca* is sold in the local market or to storekeepers in the nearby
village or town.

249 The sub-region of tobacco and manioc production occupies the
244 humid eastern and southern edges of the Uplands. The chief center of
311 production, the Southwestern Recôncavo, occupies a zone of deep, sandy
134 and sandy loam soils lying in flat-surfaced uplands above crystalline
rocks. The northern parts of the tobacco-manioc sub-region occupy the
rough, dissected southern edge of the sandy Tertiary *taboleiros*--in this
northern area the production of both crops is less intensive than in the
Southwestern Recôncavo. The area of primary tobacco and manioc produc-
tion generally conforms to the forest and scrub forest transition and
is expanding southwestward beyond the traditional Recôncavo along this
[433] physical boundary zone. The intensity of production is also increasing,
[178] but with violent year to year fluctuations.

241 In addition to sugar cane, tobacco, and manioc, other subsistence
433 and commercial products are grown in the Recôncavo. The most important
of these are corn and beans, grown as commercial and subsistence crops
in the north and west of the region, and coconuts, which are produced
along the beach line. Bananas, sweet potatoes, and peanuts are grown
in most parts of the Recôncavo, but on a small scale.

241 There are several areas in which there is little or no cultiva-
311 137 tion. The rougher Intermediate Hills, which are forested, separate the
sugar cane sub-region from the tobacco-manioc sub-region. The lowland
areas of Tertiary and crystalline soils are also forested and are culti-
vated under a non-intensive land rotation system with some associated
241 livestock. The Recôncavo is distinguished from the surrounding areas
by its relatively greater mean intensity of cultivation. In the

BB 241 231 233 In the surrounding *sertão* livestock production is the areally and, in many cases, economically dominant activity; the Recôncavo is primarily a region of crop cultivation.

BB 43 443 The Recôncavo is a functional unit in the economic organization of commercial agriculture and marketing. Salvador, with one-third of
BB [249] [452] the people of the region, is the primary market center. The credit essential to the production of tobacco passes from the city to the countryside, while the leaf is either shipped to the city for export or is sent
BB [249] to local cigar factories controlled by Salvador companies. Similarly, the headquarters of the sugar industry and the chief market for its products is Salvador. Feira de Santana is also a functional center for the region, since in its markets the agricultural and industrial products which either originate in the Recôncavo or are imported through Salvador are exchanged for the livestock, crops, and extractive products of the *sertão*.

B BB 241 Many of the features of the agricultural system of the Recôncavo are also characteristic of Brazil. Both the land rotation system and the permanent monoculture are basic Brazilian agricultural systems. Agricultural technology, in the Recôncavo and in most parts of Brazil,
B BB [464] is relatively backward. Brazilian agriculture is labor extravagant, and there is a constant *falta de braços*, but with few attempts at mechanization. Agriculture is highly speculative, whether tobacco in
B BB [423] [565] the Recôncavo or coffee in São Paulo. The large property—latifundia—and the class organization with which it is associated are important in the region and in the country as a whole. There are large numbers of semi-dependent small cultivators in the Recôncavo as in other parts of Brazil. Both the region and the nation are very dependent upon the sale of agricultural products to distant markets.

241 The following assumptions underlie the discussion of the potentialities for agricultural development in the Recôncavo: (1) The Recôncavo, at least for the immediately foreseeable future, will remain a primarily agricultural region, i.e., agricultural production will remain the basic source of wealth. (2) Probably the region will continue to be dependent upon distant markets, either in central Brazil, Europe, or in the United States. (3) The population of the region apparently will continue to grow, as the result of the natural increase and probably as a result of continued migration from the *sertão*. If these assumptions are correct, two conclusions seem almost inescapable: (1) Commercial agriculture, at least partially oriented toward outside markets, will continue to be essential to the region, and, if imports are to keep pace with the growing population, will have to be expanded. (2) Greater food production will be necessary. It should be noted that these assumptions and conclusions are probably valid for Brazil as a whole as well as for the Recôncavo. Moreover, they are merely a restatement of the situation in which both the nation and region have found themselves for the last four centuries.

The two problems of food and export crop production are closely related--arable land is limited in the Recôncavo, and food production is necessary for the operation of the commercial agricultural economy. These two problems in their turn are inseparable from the physical and social context in which they exist. It is the particular advantage of agricultural geography that it provides the framework within which specific agricultural problems may be evaluated in relation to the
128 relevant human and physical environmental factors. The discussion
241 which follows will deal with the two basic problems of agricultural development under the following categories: (1) the sugar industry;

128 (2) tobacco production; (3) manioc production; (4) the land rotation sys-
241 tem; and (5) alternative agricultural products.

249 For three centuries the sugar industry was the basis of the com-
471 mercial economy of the Recôncavo, and for the last century it has continued to play an important role. As a result of its long and profitable history, it has a number of advantages as a basis for agricultural development. Its capital assets are large--the best land in the region, a number of industrial plants, and a transportation network. Moreover, its
[565] land is organized into large units, many of which are under the control of a single company, and all of which are under the control of a small group of the upper class. The industry has a large administrative staff, the most experienced in the region in large-scale enterprises--the organization of agricultural and industrial production, labor, transportation, and finance. It has the very great advantage of good political connections and government support. A part of the industry,
[242] composed chiefly of the largest usinas, has had some experience with improved varieties of cane, and on a very limited scale with mechanization.

249 Against these advantages are a number of limiting factors. Most
471 of the local capital of the sugar industry apparently is committed in
433 the present plant. The sugar economy of the Recôncavo is large scale only in relation to the other agricultural enterprises of the region--the mean daily capacity of the mills can scarcely exceed 500 ton. Moreover, many of the mills are obsolescent--there is only one new usina, and only the larger mills have very much new equipment. Despite
[464] the presumed administrative skill of the industry, labor has been one
[178] of the continuing problems since the deterioration of the old feudalistic
[466] employer-employee relationships of the late nineteenth century. However,

249 the crop region would decline and that manure, essential to the production of tobacco, would become even more expensive than at present. Any increase in the intensity of tobacco production would probably decrease the production of manioc, so that both the sub-region and the Recôncavo would have an even greater food deficit than at present.

241 The system of land rotation is clearly one of the basic problems of the Recôncavo. As the population of the region grows, the
problem of the system of cultivation will almost certainly become progressively more acute. One solution which is being proposed by the rural
missions of the Ministry of Education is the use of composting as a
[178] substitute for manure. As yet the results of the mission program is not
clear, but it is obvious that the resistance and the apathy toward new agricultural ideas in the region are very great. As far as could be ascertained, mixed agriculture has not been suggested as a solution to the problem. Indeed, in view of the lack of additional land for the production of forage crops or of grasses, it is difficult to see how such a proposal could be implemented.

242 It is apparent even to the casual observer that there are some
alternative crops which might be produced in the Recôncavo. From time
to time the agricultural experiment stations and a few enterprising
[243] land owners point the way. One example is the production of corn as a
commercial crop in the northern part of the município of Muritiba. At
[312] the price of corn prevailing in 1953, it was believed possible to produce
the crop profitably using irrigation water pumped from the Rio Paraguaçu, and a single landowner was making the attempt. Obviously there are no large areas in the narrow valley which can be irrigated, nor is the water supply great. It is, however, suggestive that it is possible to produce a staple food crop at as great a profit as tobacco. In the

242 [245] In the sugar cane zone there has been one small scale experiment with white cacao, which can be sold at a higher price than the ordinary variety. It is believed that this crop would do well on the soils now under sugar cane and perhaps on some of the other soils of the lowlands. Since cacao in the Recôncavo presumably would be free of the diseases which cause so much difficulty in the main area of cultivation along the southern coast of the state, it might be possible to stabilize Bahia's cacao production and at the same time to improve agricultural conditions in the Recôncavo. [243] Another alternative use for the Cretaceous soils of the sugar cane region might be for the cultivation of rice, which is presently grown on a small scale in Santo Amaro. In view of the perennial shortages and high cost of food in both the Recôncavo and in Brazil, such a generally acceptable food should find a ready market. On the other hand, the development of cacao or rice cultivation in this area would mean the abandonment of the heavy investment in sugar mills and plantations.

241 178 Although the evaluation of specific suggestions is the province of the agricultural specialist, one fact is clearly shown in the results of the present research—any proposal for the future development of the Recôncavo will have to conquer the inherent traditional orientation of agriculture in the region.

APPENDIX B

Changes in Crop Data

241 433 127 128 [659] The crop data in Produção Agrícola: 1948 were gathered by statistical agencies of the Instituto Brasileiro de Geografia e Estatística established in each cidade of Bahia and of most other states in Brazil. The quality of statistical data assembled is highly variable, depending in part upon the efficiency of the agent but also upon the size of the município and upon whether the products are easily assessable, or are marketed locally, and a number of other factors. In a number of cases it has been necessary to modify obviously erroneous parts of the official data, which were sometimes contradictory and sometimes at variance with the agricultural pattern as determined by field investigation. This usually has been done by interpolating from other more creditable data from the same basic source or from other sources. In the following pages the important changes which have been made in the data for various crops will be discussed, and maps based upon the original data will be presented.

When the data for area, production, and value were combined to determine yield and price, and these relationships were mapped, certain obvious errors and a number of clues to the direction and extent of error were discernible because the general outline of price and yield pattern in the Recôncavo was clear. Generally one of the three base figures--area, production, or value--was accepted as valid and the others adjusted to bring yield and/or price into line. Because of an almost complete lack of property surveys, the crop area data are at best a gross estimate and liable to great error. [443] [659] On the other hand, the location of the statistical bureau in the cidades, usually the primary market, does give opportunity to make reasonably close estimates of value and production, at least of marketed crops.

241 of value and production, at least of marketed crops. The choice between
433 value or production as a base figure for correction was dependent upon
127 the individual case and the generally expected pattern of price and
128 yield.

244 *Manioc.* The basic shortcomings of the manioc data were clearly
433 revealed when area and production figures were combined to show yield.
127 While the mean calculated yield for the Recôncavo was 16.3 tons per
128 hectare, the mean calculated yield for individual *municípios* varied from 5.3 tons per hectare for Salvador to 39.0 tons per hectare for São Filipe (Map 130). Certain variations, related to precipitation, soil, and intensity and care of cultivation, are to be expected, but the yield maps revealed incredible contrasts. Especially noteworthy was the case of São Filipe, with its yield of 39 tons per hectare. Adjoining Cruz das Almas and Conceição do Almeida, with similar and if anything more efficient practices of cultivation and with similar soils and climate—especially since most manioc in São Filipe is grown in the area adjoining Cruz das Almas and Conceição do Almeida—produced only 14 and 10 tons per hectare, respectively. It was apparent that at least one element in the São Filipe data was in error. The other *municípios* with exceptionally high yields--São Francisco, with 34.5 tons per hectare, and Santo Amaro, with 25.3 tons per hectare--probably can be explained by high productivity when manioc is grown on a small and intensive scale on the more fertile clay soils.

In São Filipe the yield calculated from official data was three
[435] to four times that of the surrounding *municípios*. Moreover, the unit
value per ton was Cr.$60, compared with Cr.$150 to Cr.$200 for adjacent areas. The conclusion that the production figure was an error was re-enforced through a comparison of the density of production in

[TEXT CONTINUED ON PAGE 409]

APPENDIX F

Comparison of 1940 and 1948 Data for Cultivated Areas

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The figure for cropland in 1948, derived from the total area in principal crops, is less than half the total cultivated area which is given in the 1940 Censos Econômicos, as shown on the table which follows (Table XIX). The development of the individual crops, indicated by the statistical material available and by the situation which is to be observed in the area, indicates quite clearly that the catastrophic decline which these figures would seem to indicate has not in fact taken place. The growth of the population of the Recôncavo, without concurrent industrialization or radical reorganization of the agricultural system, has required the expansion, not the contraction, of the cultivated area. It is clear that the 1940 census data must have included much land that was not in crops--probably it included those areas which customarily were cultivated under the land rotation system but which were not, in 1940, in crops. Since the census was based upon the opinion of the agriculturalist as to the cultivated area and since it is the custom to regard fields recently abandoned as cultivated land, it is easy to see how the 1940 figure was so large. It is assumed, therefore, that the 165,235 hectares which the census called cultivated area in 1940 corresponds to the general area in which cultivation was customary and not to actual cropland.

TABLE XIX

COMPARISON OF LAND CULTIVATED AS GIVEN IN THE 1940 CENSUS AND AS CALCULATED FROM 1948 CROPLAND DATA

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	Land Cultivated 1940	Land Cultivated 1948	Change
Central Recôncavo:			
Santo Amaro	19,252	8,417	-10,835
São Francisco	3,227	1,063	- 2,164
São Sebastião	4,798	2,516	- 2,282
Cachoeira	4,326	1,154	- 3,172
Northern Recôncavo:			
Coração de Maria	4,653	1,092	- 3,561
Irará	27,630	9,115	-18,515
Alagoinhas	3,868	2,464	- 1,404
Northwestern Recôncavo:			
Feira de Santana	20,457	3,994	-16,463
São Gonçalo	4,270	3,614	- 656
Conceição da Feira	2,363	1,343	- 1,020
Santo Estêvão	10,145	8,500	- 1,645
Southwestern Recôncavo:			
Muritiba	7,654	3,333	- 4,321
Cruz das Almas	8,585	12,796	+ 4,211
Conceição do Almeida	11,419	7,506	- 3,913
São Filipe	5,942	6,430	+ 488
São Félix	3,482	1,512	- 1,970
Eastern Recôncavo:			
Catu	5,484	741	- 4,743
Pojuca	1,037	259	- 778
Southern Recôncavo:			
Maragogipe	7,221	1,342	- 5,879
Itaparica	4,492	891	- 3,601
Salvador	4,930	1,921	- 3,009
Recôncavo Total	165,235	80,003	-85,232

Source: Recenseamento Geral do Brasil: 1940. Censos Econômicos, Bahia, Vol. II, and Produção Agrícola: 1948.

249*
tion plantation. At its highest level it is a form of unwritten 466
social security which works well, supplementing the low wages
which are paid throughout the area. Even on the factory plantations
there is a mild form of paternalism, which is stronger
in plantations nearer to the factory and to the home of the
usineiro.

The migrant workers, however, do not fit into the pattern 249*
of paternalism, mostly because they do not seek it. Indirectly 464
they receive its benefits, for if one of them is ill he can go 466
to the contractor who will then go to the plantation owner or
usineiro for medicine or whatever is needed. But in general
the migrant laborers stay by themselves and ask little or nothing
of their employers.

In addition to the protection provided by a paternalistic system, 249*
the workers have the right to at least half an acre of land 466
on the plantation where they can plant and raise their subsistence
crops. Often they also plant tobacco, both in these plots [241] •
and in the small areas throughout the plantation where no sugar
cane is planted, such as corners where the plow cannot
penetrate. The tobacco is sold to traveling buyers who scour [443]
the area at the tobacco harvest season. The money thus gained
belongs to the workers, and many of them say that cash earned [434]
in such a way provides the "extras" they like during the year,
such as rum, cigarettes, a pair of earrings, or some perfume.

[Town Life]

226 43 men say that the fish are leaving, while others say there are
just as many as ever. It is a difficult thing to prove one way
or the other, for written records of the annual catches are
only recent. However, there is no such thing as being unable
to sell the fish they bring in. Many people in town have increased
[226] their consumption of fresh fish as a result of inflation,
for it is less expensive than dried or fresh meat. The
[458] fishermen themselves eat a great deal of fish, always keeping
enough out of a catch for their own family. The planters
of the rural area complain that the fresh fish never arrive at
the plantations any more as they did in the past. This is probably
[251] due to the icehouse in the town. The fishermen sell first
to their "usual customers," the women who work with xangô
and shrimp; what is left is sold to the icehouse to be packed
and shipped to Bahia, rather than being sent out to the country.

226 The jereré, a small basketlike net built around an iron ring
1 1/2 feet in circumference, is used by women and children
along the shore and is part of a subsistence activity. It catches
[252] only a small crab (siri), an occasional eel, and other small
fish which are cooked for the table in the form of moqueca,
[262] a sort of stew highly seasoned with peppers and dendê oil.
The tideswamps abound in a large crab called the caranguejo,
[857] which is also highly prized for the table. Children often catch
these, but a man who does so is called a caranguejeiro, a
derogatory term. The hunter seeks the crab by sticking his
arm down into its hole, which is usually very deep, at least
[134] arm's length. As a result he is always covered with the thick
black mud so typical of the tideswamps. Often a tropeiro de
[443] cima comes to the town and commissions someone to catch
the crabs, which he wraps carefully in mud and leaves and
carries to the northern hinterland to sell.

463 The second largest subgroup in Group 3 is composed of the
twenty-four gardeners (roçeiros) who are engaged in small-
241 scale commercial farming, rather than subsistence horticulture.
They live in town and have their small fields on the
[427] outskirts of Vila Recôncavo. All of these fields are located
on the plantation Engenho Da Vila ("P" on map of community),
and they range from one, two, or three acres in size to as
241 many as fifteen acres, rented from the plantation at Cr$100,00
an acre per year. The major crops are manioc, bananas, and
to a lesser extent tobacco, sugar cane for chewing (cana de
000 chupar), corn, beans, and squash. Because there are only 265

[Town Life]

Because there are only 265 241
acres of manioc under cultivation in the entire county, production 43
is far below the amount of farina consumed, and it is
necessary to import the milled manioc tuber which constitutes [262]
the major dietary item of the people. In 1951 a municipal law
was passed prohibiting the exportation of farina. Three times [114]
during the author's stay in the town there was a pronounced
lack of farina, when there was almost none to be bought and [731]
its price per liter rose from one to three *cruzeiros*. That
year's drought was also partly responsible for the shortage.

Bananas are the only commercial export crop of the gardeners. 245
There are approximately 15,000 banana trees in the 43
county, producing for the commercial market an annual production [442]
of 177,000 arms (*cachos*) of bananas, providing an income
of Cr$500.000,00. The fruits are sold to a middleman
from Bahia who knows most of the gardeners in the area. Once
a week, or every two weeks, he arrives at the town in a large
sailboat to receive the fresh bananas, which he then takes to
Bahia and sells. Sometimes a gardener sells an arm of bananas
to a woman in town who then resells them to townspeople. Few
people in town have to buy them, however, for each household
has at least one banana tree in the back yard. An acre of land [311]
supports about 144 banana trees, which when well cared for
produce 1,500 arms a year. The fruits are sold in cargoes
of fifty arms at Cr$160,00 a cargo, so that one acre earns
about Cr$5.000,00 a year. This sum is almost entirely profit,
for gardeners do most of their own work, except when they
have too much land for one man to take care of properly.
Hired help is paid in accordance with the service performed: 245
ten *cruzeiros* for cutting fifty arms of bananas, twenty for 46
transporting them to the dock if the gardener does not have his
own animals, and a hundred *cruzeiros* an acre for "cleaning,"
i.e., cutting down and burning old stalks and leaves and keeping
the weeds cut down.

Manioc presents a slightly different case, for the raw product 252
must be processed before it is consumed. The manioc root
from which farina is made is the poisonous variety and must
be peeled and grated, pressed to remove the juice, and then
toasted. The final product is a white powder, fine or coarse
depending upon the type of grater used. Most of the local product
is a coarse type ((*farinha de guerra*). One of the gardeners
has a flour house where the tubers are converted into [427]
flour. He mills his own manioc there and lets others use the
machinery, charging them one liter of farina out of each ten
they produce.

252 they produce. The juice which is squeezed out is saved, and starch is extracted from it to be used in pressing clothes. The nonpoisonous variety of manioc (aipim) is used to a much smaller extent. Usually the tuber is boiled in water and then eaten as though it were a potato, for it does not need any processing to render it edible.

241 463 Ten of the twenty-four gardeners concentrate on manioc, while the others raise bananas. Most of them also grow their own household subsistence crops, scattered among the manioc and bananas, such as corn, beans, squash, and often a few shoots of excellent tobacco. Many of them also produce a quarter or half acre of a heavy type of sugar cane (cana de chupar) which is stripped of its bark, cut into short pieces, and masticated, the pulp being spit out after the person has [146] sucked out the juice. Almost everyone indulges in this, and [825] the sugar which is absorbed is undoubtedly a great source of energy. The plots (roças) are fenced and protected by an ox [789] skull stuck on one of the fence posts to keep out the evil eye.

241 463 554 [427] There are many gardeners to the west of the town who rent their small plots from either the Engenho da Vila or the federal school. This area has not produced sugar cane for many years, for it lacks the surface covering of massapê. These gardeners are often called matutos ("hicks"), real backwoodsmen who get along on subsistence agriculture and seldom leave their rural neighborhood. They are as far removed from contact with modern civilization as anyone could be while living in the Recôncavo. They live in well-hidden, small houses of mud and thatch, and one can ride through this section without seeing anyone.

443 463 [608] The peddlers (ambulantes) listed in Group 3 have their houses in Vila Recôncavo but go from town to town selling their wares. While they do some trading at the fairs they also cover a regular route independent of the fairs. Compadresco, the system of godparentship, is important to them, for the houses of such relations give them a base of operations in every town they visit. One of the three is a man who buys and sells jewelry, and the other two are women; one sells cloth for dresses and the other sweets (doces), peanuts, and dried shrimp. The latter is one of the famous street merchants (bahianas) of Salvador; she sits on a street corner before a portable table selling favorite Bahian snacks such as acarajé and abará. She goes to Salvador on the boat on Saturdays, Tuesdays, and Thursdays, returning to Vila Recôncavo the

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[464]
[241] sugar workers move rarely, remaining for generations on the same
plantation. Each family has its garden where a little maize, beans
[465] and manioc are grown. Pay day comes every two weeks, when as a
rule the worker goes to the owner's house to receive his money.
The pay is small, 15 to 25 dollars a fortnight, depending on how
[461] much the man has worked during the period. Men do not like to
work more than five to six hours a day, from six a.m. to twelve noon,
and seldom work more than five days a week. They work easily,
without hurry. In the afternoon they work in their garden, if their
249 wives have not already done so. On the plantation no one starves;
466 everyone has his *patrão* (protector) in the person of the owner, and
in case of an emergency, accident or sickness, he expects help from
him. This personal element is very important on most plantations in
the vicinity of Vila Recôncavo; as a rule, the owner knows all the
workers by name, knows their families and their family troubles and
[164] problems. He is aware of their love affairs and up-to-date on the
health of new-born children and their mothers. Nearly all cases of
sickness, from common colds and rheumatism to more serious
ailments, are brought directly to the attention of the *patrão* or his
wife. The owner, returning from a prolonged stay in the city,
receives visits from the workers or from their wives, during which all
the personal gossip is exchanged. The workers inquire about the
owner's family and more extended family, for they generally know
them all. Engagements, weddings, births, deaths and illnesses are
reported on both sides. Complaints or requests are also made to the
466 owner. The relationship is highly personal, intimate, gentle and frank.

On one rather small *usina*, which will be called São Pedro, in the
249 rural zone of Vila Recôncavo, the situation is somewhat different.
São Pedro is not one of the large *usinas* of the Recôncavo, owned by
472 a corporation; it is relatively small and owned by one of the most
[473] important families of the Vila Recôncavo community, members of
the regional aristocracy whose family has held plantations there for
many generations. Because the owners of the *usina* actually administrate it, and since they are in residence in the locality at least
part of the year, they are able to maintain many of the traditional
personal relations with their employees, many of whom have worked
on the plantations belonging to their family and in the *usina* for most
[162] of their lives. But there is a total of 1,183 workers and their families
at the *usina* and on the plantations belonging to São Pedro, and the
very size of the enterprise and the number of workers make for a
more impersonal and more strictly economic relationship between
employer and employee. Workers become mere a name on a payroll,
and the employer a person with whom one seldom has direct contact.
In the larger *usinas* of the Recôncavo this trend is even more marked
especially where the employer is a large corporation with offices in
Salvador.

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and that the sudden liberation of large numbers of subjected 464
blacks would subvert public order gradually melted away as 563 *
the numbers of emancipated Negroes increased and these
freedmen gave evidence of their ability and willingness to
become an orderly part of the free population and to labor
as effectively, if not more effectively, for wages as when impelled by physical force. 175

The free people of color (who by 1872 largely outnum- 563 *
bered the slaves)[97] were, Southey says, "an industrious and 464
useful part of the population: most of the maize, manioc [241] ●
and pulse, with which the towns were supplied, was raised [438]
by them upon small pieces of ground, which they rented of
the great proprietors at a low rate."[98] Freedmen were also [427]
employed as laborers on the large estates, where they lived [466]
as squatters on the land of their employers, erecting mud and
palm-leaf huts for their families, and looking to the planter
for protection from any who would do them harm.[99] In the [454]
towns they were employed principally as artisans, porters,
messengers, barbers, street merchants and small shopkeep-

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[97] Johnston, *op. cit.*, p. 97.

[98] Southey, *op. cit.*, III, 787. Cf. also: "The masters who freed slaves often gave them, with their liberty, a piece of land to insure their subsistence. The Negroes who have inherited these small holdings are to-day (1911) the best element of the black agricultural population" (Pierre Denis, *Brazil*, trans. from the French by Bernard Miall [New York, 1911], p. 322). [423]

[99] Koster writes: "The Negroes in my possession could not perform what ought to be done in proper time; and therefore I collected free laborers for the purpose, and in a short period between thirty and forty men, some of whom brought their families, removed on to the lands of the plantation; and most of them erected hovels of palm-leaves, in which they dwelt; but a few of them were accommodated with huts of mud. . . . . Many of these fellows would have committed almost any crime under the impression that my protection would screen them" (*op. cit.*, I, 295, 297). [342]